



# Applied Financial Planning

*Income Statement as a  
Management Tool*



## **Introduction**

The Community and Family Support (CFS) Training Center Staff has developed this manual for managers to use when analyzing their income statement. The manual builds on a basic understanding of the income statement and explores financial statement analysis and managerial accounting. This manual is focused on the identification of negative trends reflected in the income statement for the program, activity or department and how to trace those trends back to their operational cause(s). Using this methodology, management can apply corrective actions with a reasonable expectation of achieving long term improved financial performance. In short, management will be attacking causes, not symptoms.

The manual will focus on the data provided by the income statement and related documents. From this data, we will suggest additional information that is required to make decisions and recommendations for operational changes. In general, the decision making processes will only deal with what “the numbers” show. Management will have to factor in the customer and market considerations before making final operational decisions. As an example, sales may be down in a specific activity. Further management review of the data may disclose that Monday is the day when all of the sales loss is experienced and that closing that day would reduce labor and operating cost to a level that would more than offset reduced sales. Here we have taken “the numbers” to their natural conclusion and the best fiscal solution is to close the activity on Monday. At this point, management must consider how their patrons will perceive this change and what affect it will have on the overall use of the program.

The manual is organized following the same format that is used to display income statement data. The manual addresses changes in categories of revenues first and then expenses. In general, there is a chapter dedicated to each major category of revenue and expense. We have included learning summaries and a self test at the end of each section to reinforce the information presented in the chapter. An answer key is provided at the end of the book. Students should ensure that they have a clear understanding of the material in each chapter before moving on to the next area.

The staff at the CFS Training Center hope that this manual will serve you well as a desktop reference each month when you get your income statement.

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# Chapter 1

## Income Statement as a Management Tool

**Applied Financial Planning**



# **Chapter 1**

## **Using the Income Statement as a Management Tool**

The income statement is the formal documentation of financial performance at the installation, program, location or department code level for a specific period of time. It is a historical document prepared 15 to 20 days after the end of the reporting period which compares revenues to expenses and reflects the net income or loss for the period.

This document is prepared from all of the input documents submitted by the activity to the central accounting office, and once prepared, becomes the “official” historical performance for the activity. For this reason it is of the utmost importance that management ensure that the input documents provided are accurate, complete and timely. Most errors in financial reporting are caused by producing the financial statement without all of the required data. The missing data skews the financial report in a positive or negative direction in the first month. When the missing data is reported the following month the financial statement is skewed in the opposite direction. These huge swings from month to month become part of the permanent financial record for the activity and reflect poorly on management performance.

In addition, these large “swings” in either income or expenses also camouflage the real changes that are emerging from operational problems and market changes. They complicate management’s use of the income statement as a management tool.

Before setting off to look at how we can use the income statement as a management tool, let’s quickly review some of the basics. In order to use the income statement as a tool, you should have a thorough understanding of the basic format and mathematical relationships depicted on the income statement.

### **INCOME STATEMENT VERSUS FINANCIAL STATEMENT**

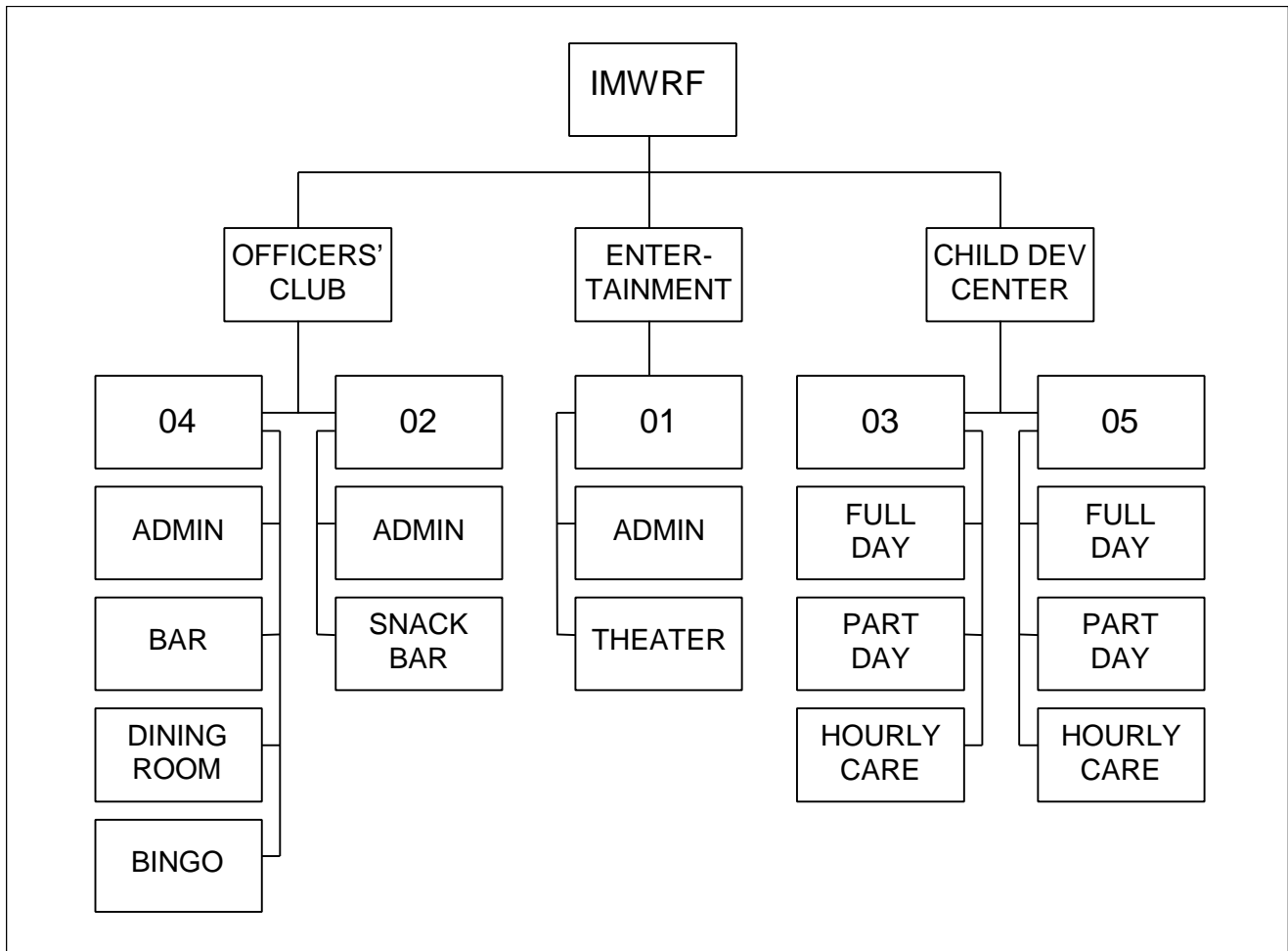
Often the terms income statement and financial statement are used interchangeably. This adds to the confusion of the accounting process. The income statement is only one part of the financial statement. The financial statement is comprised of the balance sheet and several other supporting schedules such as the statement of accounts payable and the statement of accounts receivable as well as the income statement.

This confusion is fostered in our system because of the structure of the one fund. The one fund income statement is constructed from a roll-up of all of the programs, activities and departments that comprise it; while the other parts of the financial statement (balance sheet, and supporting schedules) are prepared for the fund level only. It is easy for subordinate managers to mistakenly identify or call the income statement the financial statement since the income statement is the only document provided at their level. Throughout this manual we will use the term financial statement only when talking about the fund reports which include the income statement, balance sheet, and supporting schedules.

### **INCOME STATEMENT REVIEW**

At a large or medium sized installation the fund income statement for the installation, each program, location and department can be 300 pages of spread sheet sized computer paper. The sheer volume of the statement could overwhelm the inexperienced manager.

At many installations, managers are provided only those income statements that support the programs, locations, and/or departments they supervise. Even then, those reports can represent from 20 to 30 pages of spreadsheet-sized computer paper. At other installations, income statements are printed by using SMIRF (Standard Management Information for Finance). Confusing? Not really! Figure 1-1 represents an example of a typical installation financial reporting structure.



**Figure 1-1: Income statement reporting.**

The large number of income statements that are created to summarize the financial performance of the fund are indicative of the basic philosophy of the entire reporting system. The income statements are formulated at the lowest level business element, which is the department. All of the departments operating in a single location are rolled-up to create the location level income statement. The location level statements are rolled-up to create the program level income statement and finally, all of the program code statements are combined to form the fund level statement. Note that some programs can be made up of one location (front door) and only one department while other programs are likely to have several activities and multiple departments in each activity.

As previously stated, the income statement is simply the comparison of the revenue and expenses for a given period to determine the amount of net income/loss. The income statement period for the MWR world is the fiscal year beginning on 1 October and ending on 30 September. In addition to the annual statement, interim statements are compiled at the end of each month. These are the statements that we as managers will use to evaluate the

status of individual programs, activities, or departments; and to make operational changes that will improve performance.

Income Statement Format		
1.	Net Sales	\$ 5,000
2.	- Cost of Goods Sold	2,500
-----		
	= Gross Income from Sales	2,500
3.	+ Other Operating Income	10,000
-----		
	= Gross Income from Operations	12,500
4.	- Labor	3,500
5.	- Other Operating Expenses	2,000
-----		
	= Net Income/Loss from Operations	7,000
6a.	+ Other Income	500
6b.	- Other Expense	100
-----		
	= Net Income/Loss before Depreciation	7,400
7.	- Depreciation	400
-----		
	= Net Income/Loss after Depreciation	\$ 7,000

*Figure 1-2: Income statement format.*

## INCOME STATEMENT FORMAT

While the basic income statement equation is “revenue minus expense equals net income/loss,” typical accounting practices make the format more complicated by subtotalling the various General Ledger Accounts (GLACs) to arrive at the major categories of revenue and expense. Shown at Figure 1-2 is the Simplified Income Statement Format that portrays the seven major categories of revenue and expense. Each of these lines is a subtotal arrived at by adding or subtracting the appropriate GLACS. We will review how each of these major categories is computed as we review that particular revenue or expense later in the book. Understanding how these major subtotals are computed is one of the basic techniques that each manager must master in order to use the income statement as a tool.

The unnumbered lines in figure 1-2 are merely the result of mathematical computations as shown in the chart. We use those numbers for comparisons, but they are caused by the changes in amounts of the seven major categories of revenue and expense.

## PRACTICAL USE OF THE INCOME STATEMENT

The income statement, as it is presented by the NAF Financial Services (see Appendix A) or in summary format as we have looked at it thus far, simply lists all of the revenue and expenses in the specified format as prescribed in DOD 7000.14-R. It documents the dollar value of each of the revenue and expense entries and provides percentages for selected lines. Finally it calculates the net income or loss. Figure 1-3 illustrates the performance of the XYZ Bowling Center for a single month in summary format.

While this information documents the historical performance of the activity for the period, it does not paint the total picture required for a manager to use it as a tool. If we look only at performance for the month shown above, we might assume that management did well based on the profit shown. But if we compare this month to the previous month, to the same month last year or to the budget, we might get a totally different picture (refer to Figure 1-4).

What is dramatically portrayed here is the necessity to compare current performance to some planned and/or historical performance. What the manager wants to be able to do is look at how performance was this month compared to the budget, last month, and/or this month

XYZ BOWLING CENTER		
	<u>MAR 19X3</u>	
SALES	7,000	
COST OF GOODS SOLD	<u>4,900</u>	70.0%
GROSS INCOME FROM SALES	2,100	
OTHER OPERATING INCOME	<u>500</u>	
GROSS INCOME FROM OPERATIONS	2,600	
LABOR	1,900	25.3%
OPERATING EXPENSES	<u>200</u>	2.7%
NET INCOME BEFORE DEP	500	6.7%
DEPRECIATION	<u>275</u>	
NET INCOME	225	3.0%

*Figure 1-3: The XYZ Bowling Center for March 19X3.*

last year. Is performance getting better or worse and what operational factors are impacting on the results? It is evident that the key to using the income statement as a tool is being able to perform various trend analyses.

XYZ BOWLING CENTER									
	MAR 19X3		FEB 19X3		MAR 19X2		MAR 19X3 BUDGET		
SALES	7,000		7,600		6,900		7,300		
COST OF GOODS SOLD	4,900	70.0%	5,000	65.8%	4,200	60.9%	4,900	67.1%	
GROSS INCOME FROM SALES	2,100		2,600		2,700		2,400		
OTHER OPERATING INCOME	500		500		400		600		
GROSS INCOME FROM OPERATIONS	2,600		3,100		3,100		3,000		
LABOR	1,900	25.3%	2,000	24.7%	1,840	25.2%	1,900	24.1%	
OPERATING EXPENSES	200	2.7%	0	0.0%	120	1.6%	150	1.9%	
NET INCOME BEFORE DEP	500	6.7%	1,100	13.6%	1,140	15.6%	950	12.0%	
DEPRECIATION	275		285		295		275		
NET INCOME	225	3.0%	815	10.1%	845	11.6%	675	8.5%	

*Figure 1-4: Monthly performance of the XYZ Bowling Center compared to budget.*

## TREND ANALYSIS DEFINED

Trend analysis is simply the comparison of operating data on the income statement with previous period performance (historical data) or with planned performance (budget). When revenue is “down” or expenses are “up” then the financial trend is defined as negative. If revenue is “up” or expenses are “down” then the financial trend is considered positive. In general, management must review and take action to correct all negative trends. Often management tends to just accept positive trends and take little or no action on them. Positive trends should be reviewed to determine causes so that similar strategies can be applied in the future. In addition, some positive financial trends can have long term negative impact on the operation. As an example, management when pressed to produce profit sometimes cuts operating expenses to the “bone.” In the short run the desired profit is achieved at a detriment to the overall program. Later, extra expense is incurred to bring the activity back to normal operating levels.

## TYPES OF TREND ANALYSES

There are many different types of trend analyses that can be used by the manager. The difficulty lies in selecting the particular analysis(es) that will provide the most useful information to management. In most cases there is no hard and fast rule for which to use. Since in the MWR world today, performance is most commonly measured to budget; this is the analysis that will be used most often. Below we will discuss several additional trend analysis techniques, illustrate their use, and highlight the strengths and weaknesses of each.

Trend analysis can be accomplished in either dollars or percentages. Again the income or expense being analyzed will determine which is the best method to use. It is even sometimes productive to analyze the same data both ways. As an example, it may be good management information to know that Sales are increasing in “real dollars” and, from that, investigate what is causing the increase. It might also be interesting to discover that while sales are increasing; when they are compared as a percent of total revenue they are decreasing. This information would indicate that sales are not keeping pace with increases in other operating income. This information might require management to look for an entirely different set of causes.

OTHER OPERATING INCOME ANALYSIS									
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	YTD
SERV/REC INC	1,700	1,650	1,660	1,530	1,560	1,321	1,229	1,167	11,817
DUES INCOME	420	450	430	440	440	443	423	437	3,483
CONCESSION INC	23	45	34	56	13	24	51	34	280
CASH OVERAGE	27	22	9	16	14	34	9	7	138
TOTAL OTHER OPER INC	2,170	2,167	2,133	2,042	2,027	1,822	1,712	1,645	15,718

**Figure 1-5: Analysis of total other operating income. What is causing this trend? Spreading the data side by side and then comparing it isolates the cause.**

**This Month vs. Previous Month(s).** This technique requires that selected lines(sections) of the income statement be displayed side by side so that emerging upward or downward trends are evident. The advantage of this technique is that the results are easy to see. On the negative side it may require considerable work to compile the analysis from several different income statements. This method works equally well for both dollars and percentages. Figure 1-5 shows an analysis to determine the cause of a downward trend in Other Operating Income. It is immediately evident that only Services and Recreation Income need be further reviewed.

**This Month vs. Budget.** This technique highlights how much the actual performance varies from the planned management estimate. This analysis is prepared automatically by the Nonappropriated Fund Information System Standard (NAFISS) when the income statement is prepared. A sample of the report is shown at Figure 1-6. Management must review the report and determine causes of the variance. The advantage of this comparison is that it is already completed for management. NAFISS automatically calculates all lines of the financial statement in dollars and percentage change where applicable. Lines where undesirable variances occur are highlighted by an asterisk.

BOWLING CENTER VARIANCE ANALYSIS						
	MAR 19X3		BUDGET		VARIANCE	
SALES	6,900		7,600		(700)	- 9.2%
COST OF GOODS SOLD	4,900	71.0%	5,000	65.8%	100	2.0%
GROSS INCOME FROM SALES	2,000		2,600		(600)	- 23.1%
OTHER OPERATING INCOME	500		500		0	
GROSS INCOME FROM OPNS	2,500		3,100		(600)	- 19.4%
LABOR	2,100	28.4%	2,000	24.7%	100	5.0%
OPERATING EXPENSES	200	2.7%	100	1.2%	100	100.0%
NET INCOME BEFORE DEP	200	2.7%	1,000	12.3%	(800)	- 80.0%
DEPRECIATION	275		285		(10)	- 3.5%
NET INCOME	(75)	- 1.0%	715	8.8%	(790)	-110.5%

**Figure 1-6: Monthly variance analysis.**

The reliability of this method depends upon the accuracy of the budget. It is possible that the original budget submission was poor or that operational changes have taken place in the time since the budget was submitted that make it no longer valid.

<b>TOTAL REVENUE MAY 19X2 VS MAY 19X3</b>		
	<b>MAY 19X2</b>	<b>MAY 19X3</b>
SALES	1,695	1,785
OTHER OPER INCOME	1,725	1,312
OTHER INCOME	<u>225</u>	<u>245</u>
TOTAL REVENUE	3,645	3,342

**Figure 1-7: This analysis shows a sharp decrease in total revenue.**

of X2 with May of X3. It is easy to see that Other Operating Income is the cause of the overall decrease.

This comparison can be accomplished using both dollars and/or percentages. The biggest advantage to using this analysis is that it highlights major changes in revenue or expenses which may not have been evident with month to month gradual increases.

**Year to Date (YTD) This Year vs. YTD Last Year.** Provides a good overall picture of how the activity is doing now compared with last year. This analysis is a good cross check to the budget comparisons. It can be accomplished using either dollars or percentages. Management must select the specific lines they are interested in and extract them from the YTD column of the applicable income statements. Again, the SMIRF Summary Account Comparison Report can supply this information.

Figure 1-8 shows a comparison of Other Income between fiscal years. This analysis highlights cumulative changes in the performance of the activity and may point out an isolated happening in a single month which is not normal for the whole year. In this illustration Gain on Disposal of Other Property jump out at you because there was none in the previous year. Likewise, it is evident from reduced interest income that either cash in the bank or the interest rate has been lower this year.

**YTD This Year vs. Budget YTD.** This analysis shows how income and expenses match the management plan for the fiscal year. Just as with the monthly comparison, it is produced automatically by the NAFISS accounting system for each line on the income statement for which budget data was received. The report calculates dollar and percentage variance between the budget and the actual performance. Management must analyze and explain causes.

This report is extremely valuable as a management tool if the budget is a valid plan. Use of the report lets management review performance monthly, identify causes of negative trends, make mid-course adjustments, and check results at the end of the following month. In addition to pointing out operating problems, it may highlight the need to revise the budget for the remainder of the year. Figure 1-9 shows YTD performance for a bowling center. This analysis points out graphically that management needs to review a number of operating areas to determine why they are so far away from “the plan.”

**This Month vs. the Same Month Last Year.** This analysis compares the same months one year apart, allowing management to see changes over time. This analysis is particularly good for seasonal activities where month-to-month trends may be deceiving. Here again, compiling the data requires extra work. Specific lines (sections) of the income statement must be selected and extracted manually to prepare the analysis. However, the information is readily available in the SMIRF Summary Account Comparison Report. Figure 1-7 illustrates a comparison of total revenue from May

<b>OTHER INCOME 19X2 YTD VS 19X3 YTD</b>		
	<b>19X2 YTD</b>	<b>19X3 YTD</b>
INTEREST INCOME	7,200	6,300
GAIN ON DISP OF OTHER PROPERTY	0	600
MISCELLANEOUS OTHER INCOME	<u>0</u>	<u>48</u>
TOTAL	\$7,200	\$6,948

**Figure 1-8: This analysis points out a reduction in interest income and increased sale of property. Why?**

<b>BOWLING CENTER VARIANCE ANALYSIS</b>						
	ACTUAL YTD		BUDGET YTD		VARIANCE	
SALES	13,650		15,000		(1,350)	- 9.0%
COST OF GOODS SOLD	<u>8,690</u>	63.7%	<u>9,200</u>	61.3%	<u>(510)</u>	- 5.5%
GROSS INCOME FROM SALES	4,960		5,800		(840)	-14.5%
OTHER OPERATING INCOME	<u>62,430</u>		<u>68,000</u>		<u>(5,570)</u>	- 8.2%
GROSS INCOME FROM OPNS	67,390		73,800		(6,410)	- 8.7%
LABOR	47,290	62.6%	42,000	50.6%	5,290	12.6%
OPERATING EXPENSES	<u>2,678</u>	3.5%	<u>3,000</u>	3.6%	<u>(322)</u>	-10.7%
NET INCOME BEFORE DEP	17,422	22.9%	28,800	34.7%	(11,378)	-39.5%
DEPRECIATION	<u>2,750</u>		<u>2,850</u>		<u>(100)</u>	- 3.5%
NET INCOME	14,672	19.3%	25,950	31.3%	(11,278)	-43.5%

*Figure 1-9: With these significant variance between the budget and actual performance, what action should you take?*

## WHERE DOES THE TREND ANALYSIS LEAD

Now that we have discussed the types of trend analysis that are available to management, we can look at exactly how this process helps management use the income statement as a tool. Finally, we will explore how we proceed from a symptom identified in the trend analysis, to the real cause and solution rooted somewhere in the complex operations of the activity. We will introduce several interim analyses which may be required to link the symptoms to the cause(s). Finally, we will generate possible courses of action and evaluate potential strengths and weaknesses for each. For simplicity, we will use a single example to illustrate the process, knowing that several other examples will be documented throughout the remaining chapters of the manual.

The example explored below will lay the foundation for a process and methodology that we will use over and over again in the chapters that follow, as we develop a problem solving matrix that leads us from symptoms to causes, for each of the seven major categories of revenue and expense. In this manual we will not attempt to list or document all of the courses of action which management might take, but we will discuss some in the examples cited.

## ILLUSTRATING THE TREND ANALYSIS PROCESS

Refer to the information at Figure 1-6. Let's see if we can help the manager identify the negative trends and then track one of those trends to determine the cause(s).

**STEP 1.** Lay out the summary income statement and budget data for the period (in this case Mar 19X2) and compute variances in dollars and percentages. This has already been accomplished in figure 1-6.

**STEP 2.** Review each of the lines of data to determine where negative trends exist. Compare whole dollar changes as well as percentage point changes. In the example the following negative trends exist:

- Sales are \$700 below budget.
- Cost of Goods Sold is 5.2 percentage points above budget.
- Labor is \$100 and 3.7% points above budget.

- Operating Expenses are \$100 and 1.5% points above budget.

**STEP 3.** Select one of the lines where a negative trend exists and begin to review the data that comprises or makes up the total expense or income. Exactly what additional analyses are required will depend upon which revenue or expense we are reviewing. In our example we will review the negative trend in Sales.

**STEP 4.** A basic starting point for any review is to lay out the GLACs which comprise the income or expense in the same format as the original analyses. This data would be collected from the entire income statement and budget and not from the summary shown at Figure 1-6. Determine which of these GLACs show a negative trend and limit the analyses to these particular GLACS.

In the case of sales there are no GLACS that it makes sense to review. In this case we would have to collect “period data” and compare that to what we expected when we compiled the budget. Sales is comprised of selling price times the number of units sold. If selling price did not change, then the reduction in sales resulted from decreased number of units sold. The next information that we should try to collect is—“was there a particular time or day of the week when the sales were down?” In our example, analysis reveals sales in the evening period are where the decrease has occurred.

**STEP 5.** Once we have determined where the decrease in income or increase in expense is found, we can then identify any operational change that has been made that might have caused the negative trend. In our example, we isolated the fact that sales slumped in the evening period. Here are some of the things we discovered in the Bowling Center. Management made a decision to cut the amount of inventory because turnover had been a problem. During the same period the pro shop was closed an hour earlier each weeknight. Finally a long term employee who served as the primary staff in the shop left for other employment. From this information, management can decide which were causal and what action to take.

**STEP 6.** Decide which changes impact on the negative trend and what action should be taken to improve performance. In the example, management sent the new employee to a sales training class and reopened the extra hour in the evening during the week.

This concludes the review of the process to investigate a negative trend. While initially this process may appear extremely difficult, it will become second nature to you after applying it several times. Taking the symptom to the cause, for all of the different types of negative trends, will depend on your experience and understanding of the systematic approach detailed above. The remainder of the chapters will detail trends and various analyses which will help you arrive at the real causes.

## **HINTS TO PERFORMING A SUCCESSFUL TREND ANALYSIS**

1. Don't start by analyzing each and every line on the income statement. Select the major elements first to determine which areas that will require further analysis.
  - a. Begin with departmental level income statements.
  - b. Lines that should be used as a starting point:
    - SALES in dollars
    - COGS in dollars and percent
    - OTHER OPERATING INCOME in dollars
    - LABOR in dollars and percent



- OPERATING EXPENSE in dollars and percent
  - NET INCOME BEFORE DEPRECIATION in dollars
  - DEPRECIATION in dollars
  - NET INCOME AFTER DEPRECIATION in dollars and percent
- Layout the data in the format shown at Fig 1-10. Data can be obtained from the SMIRF Income-by-Month Report or the Pick a GLAC Query.
  - This format allows for quick calculations of the YTD comparison and this year to last year.
- Where you find a negative trend, expand the analysis to the individual GLACs within each of the major lines listed above.
  - When you isolate GLACs with negative trends, it may be necessary to go to the input documents to finally isolate the specific area causing the negative trend.

OUTDOOR RECREATION TREND ANALYSIS									
	MAR 19X3		APR 19X3		MAY 19X3		JUN 19X3		
SALES	7,126		7,689		6,745		6,978		
COST OF GOODS SOLD	<u>4,908</u>	68.9%	<u>5,460</u>	71.0%	<u>4,567</u>	67.7%	<u>4,756</u>	68.2%	
GROSS INC FROM SALES	2,218		2,229		2,178		2,222		
OTHER OPERATING INCOME	<u>2,500</u>		<u>2,498</u>		<u>2,103</u>		<u>2,256</u>		
GROSS INCOME FROM OPNS	4,718		4,727		4,281		4,478		
LABOR	2,343	24.3%	2,134	20.9%	1,840	20.8%	2,179	23.6%	
OPERATING EXPENSES	<u>200</u>	2.1%	<u>0</u>	0.0%	<u>235</u>	2.7%	<u>193</u>	2.1%	
NET INCOME BEFORE DEP	2,175	22.6%	2,593	25.5%	2,206	24.9%	2,106	22.8%	
DEPRECIATION	<u>275</u>		<u>285</u>		<u>295</u>		<u>275</u>		
NET INCOME	1,900	19.7%	2,308	22.7%	1,911	21.6%	1,831	19.8%	
<hr/>									
	MAR 19X2		APR 19X2		MAY 19X2		JUN 19X2		
SALES	6,548		7,439		7,104		7,308		
COST OF GOODS SOLD	<u>4,567</u>	69.7%	<u>4,879</u>	65.6%	<u>4,756</u>	66.9%	<u>4,867</u>	66.6%	
GROSS INCOME FROM SALES	1,981		2,560		2,348		2,441		
OTHER OPERATING INCOME	<u>2,257</u>		<u>2,271</u>		<u>2,067</u>		<u>2,137</u>		
GROSS INCOME FROM OPNS	4,238		4,831		4,415		4,578		
LABOR	2,456	27.9%	2,303	23.7%	2,404	26.2%	2,346	24.8%	
OPERATING EXPENSES	<u>203</u>	2.3%	<u>234</u>	2.4%	<u>120</u>	1.3%	<u>278</u>	2.9%	
NET INCOME BEFORE DEP	1,579	17.9%	2,294	23.6%	1,891	20.6%	1,954	20.7%	
DEPRECIATION	<u>295</u>		<u>325</u>		<u>320</u>		<u>305</u>		
NET INCOME	1,284	14.6%	1,969	20.3%	1,571	17.1%	1,649	17.5%	

**Figure 1-10: Where negative trends are found, expand the analysis to those GLACs that comprise the major lines shown.**

## **SUMMARY**

We have outlined the process which we will use as we explore methods to analyze negative trends. While experienced managers can often “intuitively” arrive at the causes, we encourage use of this systematic approach, so that all of the alternatives are considered before remedies are applied. Even the most experienced manager can miss very obvious causes for negative trends

One final word of caution. Even with this systematic approach, once corrective action has begun, you must closely monitor the results to ensure improved performance is achieved and maintained. Applying corrective action requires continued effort and focus until the negative trend has been turned into a positive. Often it will take several months before you can relax your focus on a specific problem area.

## CHAPTER WRAP-UP

### KEY POINTS

- The basic income statement formula is Revenue minus Expenses equals Net Income/Loss.
- The terms income statement and financial statement are not interchangeable although they are often used that way. The income statement is only one part of the financial statement which also includes the balance sheet and supporting schedules.
- The simplified income statement format is comprised of seven major categories which are subtotals obtained by adding and subtracting the appropriate GLACs. The format prescribed in DOD 7000.14-R is:

SALES	7,000	
– COST OF GOODS SOLD	<u>4,900</u>	<u>70.0%</u>
= GROSS INCOME FROM SALES	2,100	
+ OTHER OPERATING INCOME	<u>500</u>	
= GROSS INCOME FROM OPERATIONS	2,600	
– LABOR	1,900	25.3%
– OPERATING EXPENSES	<u>200</u>	<u>2.7%</u>
= NET INCOME BEFORE DEPRECIATION	500	6.7%
– DEPRECIATION	<u>275</u>	
= NET INCOME/LOSS	225	3.0%

- The income statement is best used as a management tool when management compares present performance with planned or historical performance. This comparison is termed trend analysis. From this comparison positive and negative trends are identified. Negative financial trends are increases in expenses or decreases in revenue. Conversely, positive trends are increases in revenue or decreases in expenses.
- There are five types of trend analysis commonly used
  1. This Month vs Previous Month(s)—Historical comparison
  2. This Month vs Budget—Planned performance comparison
  3. This Month vs The Same Month Last Year—Historical comparison
  4. YTD This Year vs YTD Last Year—Historical comparison
  5. YTD This Year vs Budget YTD—Planned performance comparison
- There are six steps in the trend analysis process
  1. Select a type of trend analysis and lay out the data.
  2. Determine where negative trends exist.

3. Select a single line where a negative trend exists and begin review of the data that is summarized to obtain the summary line of the income statement.
4. Display the GLACs that comprise the summary line in the same format as the original analysis. Determine which GLAC(s) caused the negative trend.
5. Identify the operational changes that may have caused the negative trend.
6. Decide on management action to improve performance.

## REVIEW QUESTIONS

1. What is the difference between the income statement and the financial statement?
2. Department level activities receive a financial statement monthly?  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
3. When \_\_\_\_\_ are down or \_\_\_\_\_ are up the trend is defined as negative.
4. When \_\_\_\_\_ are down or \_\_\_\_\_ are up the trend is defined as positive.
5. Trend analysis should be conducted at the program level  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
6. Find the negative trends shown in Figure 1-8.
7. Where is the negative trend in Total Revenue in Figure 1-7?
8. Identify the negative variance documented in the analysis shown at Figure 1-9.
9. Given the information below, calculate Net Income.

Sales	\$4,500	Cost of Goods Sold	\$2,200
Labor	\$1,400	Other Operating Income	\$1,300
Depreciation	\$ 250	Other Operating Expenses	\$ 400
Other Income	\$ 200	Other Expenses	\$ 300

# Chapter 2

## Diagnosing Sales Trends

**Applied Financial Planning**

## Chapter 2

### Diagnosing Sales Trends

The first revenue line reported in the summary income statement format is Net Sales. This line reports the net dollar amount of income generated from selling merchandise at a specific selling price. The basic equation for recording sales is the number of products sold times the selling price. While this equation seems simple, sales are actually compiled by recording income transaction by transaction using a sales recording device (cash register, computer, etc.). The fact that income statement sales are reported as a total rather than by product or by sales period makes your analysis more difficult.

In this chapter we will explore the basic definition of sales, how sales are recorded, how to develop and monitor the sales trends and finally, methodology to determine the causes for negative sales trends. We will describe and illustrate several interim analyses which will assist you in reducing net sales reflected on the income statement to the component parts that comprise it. By reducing sales to these component parts, you will be better equipped to pinpoint causes of negative trends.

#### DEFINITION OF SALES

Sales can be defined as the income collected when goods or products permanently change hands to the consumer. This definition includes products purchased in MWR pro shops, resale stores and specialty shops, which the customer carries home. In addition, it includes food, beverages or products which are consumed on the premises. The definition specifically excludes fees charged for use of a product that is returned to the MWR activity.

As an example, money collected from a customer for the purchase of a set of golf clubs is recorded as sales. Money collected for the use of a set of golf clubs is recorded as other operating income. The single fact that distinguishes sales from other operating income is that there is always a product cost (cost of goods sold - COGS) associated with sales.

#### CALCULATING NET SALES

There are six GLACs on the income statement that are combined mathematically to calculate net sales. The formula for computing net sales is shown at Fig 2-1. The first three GLACs are used to record sales income while the second three are used for recording authorized reductions to sales. Understanding the proper use of these six revenue accounts will make your job of establishing procedures to record them correctly much easier. Correctly recording sales in the proper GLACs will ensure that trends can be identified and analyzed more easily. Listed below are the six GLAC's and their proper use:

+	CASH SALES
+	CREDIT SALES
+	LAYAWAY SALES
-	SALES RETURNS AND ALLOWANCES
-	CUSTOMER DISCOUNTS
-	EMPLOYEE DISCOUNTS
<hr/>	
=	NET SALES

*Figure 2-1: Formula for calculating net sales.*

*Account 301—Cash Sales.* This account is used to record payment for merchandise when that payment is rendered in cash or charged on a commercial credit card (VISA, Master Charge, or American Express).

*Account 302—Credit Sales.* This account is used to record payment for merchandise only if that payment is by an “in house” MWR credit system. These systems are often found in conjunction with the NCO and Officer’s Clubs and have sometimes been extended for use at other IMWRF activities as a service to our customers.

*Account 303—Layaway Sales.* This account is not used very often in the MWR world, but it is designed to record partial payment for merchandise which the activity is “holding” for” the customer until full payment has been received. It is most commonly used in rod and gun club activities where large purchases (rifles and revolvers) are paid for over several months. The key element in the use of this account is that the merchandise purchased remains in the hands of the MWR activity until the bill fully paid.

*Account 304—Sales Returns and Allowances.* This contra-sales account records the dollar amount of all purchases returned by customers. The only items returned by customers that would not be debited to this account would be food or beverage which is returned as customer rejections. In this case GLAC 653 is used.

*Account 305—Sales Discounts.* This contra-sales account is used to record the difference between the regular sales price and the price charged the customer when the goods are actually sold. When this account is used correctly it allows management to document the revenue lost as a result of promotional events and calculate the change in cost of goods sold percentage as a result of offering discounts.

*Account 306—Employee Discounts.* This contra-sales account is used to record the difference between the regular sales price and the price charged employees. In general, the only regulatory authorization for discounted sales is for employee meals in activities that offer food for on premises consumption.

## **HOW SALES ARE RECORDED**

Sales of merchandise are recorded transaction by transaction as the customers purchase the items. In most MWR activities mechanical cash recording devices such as cash registers or computers are used to record sales and establish cash accountability. In small activities where little income is recorded, prenumbered guest checks or tickets are used as the cash recording device in lieu of a cash register and computer. Whether sales are recorded manually or using a mechanical device, the sales amount is the amount reported on the cash control device—not the actual cash received. When credit or layaway sales are used in an activity, a separate subtotal is maintained on these specialty type sales. When the sales reports (part of the Daily Activity Report) are forwarded to CAO, each category of sales(cash, credit, and layaway) is totaled separately to obtain the GLAC totals reported on the income statement. Similar recording procedures are used to determine sales returns and discounts. It is important for the manager to know the source documents that cause CAO to record the various dollar amounts to the GLACs which comprise Net Sales because it is those feeder documents which you must use to break sales data back into its component parts when researching negative trends.

## **HOW TO MONITOR SALES**

Sales can be monitored in several ways. The primary method used to monitor them is dollars. In the most simple terms, an increase in dollars over the budget, over last month or over the same month last year (whatever standard you are using) indicates a positive trend. On the other hand, a decrease reflects a negative trend. This concept is illustrated in Figure 2-2.

### Monitoring Sales Against a Standard

Increasing dollars = positive trend  
 Same dollars = neutral trend  
 Decreasing dollars = negative trend

**Figure 2-2: Sales trends defined.**

not sufficient to develop a course of corrective action. Further analysis of supporting data is required to identify operational causes.

Both operations shown in Figure 2-3 have the same YTD sales. Which one would you want to operate? The month to month trend in actual dollars reveals that Operation X has increasing sales, while in Operation Y sales are decreasing. If you are the manager of Operation Y, you now have a definite indication or symptom of a problem. But this knowledge alone is obviously

### MONITORING SALES

Month to Month

	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>TOTAL</u>
OPERATION X	1,000	1,100	1,200	1,300	1,400	1,500	12,000
OPERATION Y	1,500	1,400	1,300	1,200	1,100	1,000	12,000

**Figure 2-3: Which activity shows a positive trend?**

There is a second method which may be used to monitor sales trends. That method calculates sales as a percent of total revenue and compares that percentage from period to period. In this analysis determining positive or negative trends is not quite as clear cut, but may also be useful to management.

### Sales as a Percent of Total Revenue XYZ Arts & Crafts

	<u>Jan X3</u>	<u>Jan X4</u>	<u>Budget Jan X4</u>
Sales	\$ 4,000	\$ 4,200	\$ 4,200
Other Oper Inc	<u>6,000</u>	<u>8,000</u>	<u>6,500</u>
Total Revenue	\$10,000	\$12,200	\$10,700
Sales as a Percent of Revenue	40.0%	34.4%	39.3%

**Figure 2-4: Sales as a percent of total revenue.**

Figure 2-4 shows an example of how this analysis might be valuable to management even though no clear trend can be cited. In the example, sales in Arts and Crafts has increased over the same month the previous year and is right on budget for this month. Other operating income, on the other hand, has increased considerably over both last year and budget causing the majority of the increase in total revenue. While the overall trend for the activity is certainly positive, it may be important for management to note that Sales as a percent of Total Revenue has dropped 5.6 percentage points from last year and 4.1 percentage points from the plan. This trend may alert you to

the fact that business is shifting away from sales toward fees and charges. Determining the cause of the change might lead you to a decision that would have otherwise gone unnoticed. You might choose to reduce stock in response to shifting market conditions or, on the other hand, add additional stock that supports the new program which caused the increase in revenue.

This example illustrates, as we emphasized earlier, that you must look at positive trends as well as negative trends in order to make full use of the income statement as a management tool.



## **DETERMINING CAUSES INSTEAD OF TREATING SYMPTOMS**

Once you have identified a negative trend, the next step is to begin breaking the sales information into “bite size” pieces for analysis. While you can deal with income statement data at the Program Code or Location Code level, we recommend that the analysis start at the Department Code level. Working at the Department Code level allows us to begin at the lowest income statement reporting level and saves time performing duplicate analyses at the Program Code and Location Code levels. There are several reports in RecTrac, FoodTrak, and GolfTrac that provide useful information for analysis purposes. RecTrac and GolfTrac reports, such as the Sales History Report, Summary Sales Report, and Hourly Sales Report, and FoodTrak reports, such as the Management Summary, Sales Mix Report, Sales Forecast, and Product Contribution Report, are valuable tools for determining the causes of sales trends. Once you have this information in front of you, it’s time to use the trend analysis techniques we discussed previously.

Performing trend analyses on the six GLACS that comprise Net Sales does not normally reveal much useful information, because, for most MWR activities, the bulk of sales revenue is recorded in account number 301. As a direct result, several supplementary diagnostic tools may be required to reduce total net sales data to the components that comprise it. The commonly used diagnostic tools are:

- Sales by product
- Sales by period
  - Shift (AM, PM, Midnight)
  - Day of Week
  - Hour of the day
- Sales by customer
  - Customer count
  - Average sale per customer

By breaking the Net Sales into “bite sized” pieces, it becomes easier for you to identify the true cause(s) of the negative trend. By isolating a specific sales component(s) where the negative trend is rooted, you can more effectively identify true causes. Some of the changes that might impact in the form of reduced sales are highlighted below.

- Operational causes
  - Hours/days of operation
  - Pricing
  - Service
  - Product
  - Facility appearance
  - Location
- Customer related causes
  - Population changes
  - Training exercises
  - Installation mission changes
- Command changes or decisions

- Environmental causes
  - Weather—Unexpected climatic changes
  - Competition—on or off post

Your challenge is to become familiar with the various analyses which can be compiled to dissect sales to their component parts and be able to select those most effective to determine the impact on the sales trends. As an example, the bar in the NCO club shows a decreasing sales trend. An experienced manager would probably want to perform the following analyses prior to hypothesizing causes for the decreasing trend!

*Sales by Day of the Week*—Is there a specific day of the week when sales are less than they have been in the past?

*Sales by Hour*—Are there particular operating hours where sales has fallen off from previous history?

*Sales by Product (Beer vs. Alcohol)*—Have customers changed their buying preferences to a less expensive product?

*Average Check Comparison*—Are we getting the same number of customers? Are they spending less money?

*Customer Count*—Are we getting fewer customers?

In our example, if the manager discovers that the problem is that the average check is down \$.50 per customer, this might lead to some very different action than if reduced sales on Monday night are causing the decrease.

Figure 2-5 diagrams the relationship between symptoms, diagnostic tools and the true cause of the problem. In order to use the analyses suggested, you will have to collect the historical data needed. In most cases this information is available at the Central Accounting Office or in the records maintained at the facility.

Some of the source documents from which you will draw information are scatter sheets, programmable cash registers, Daily Activity Reports (DARs), Daily Cashier's Reports, the previously mentioned RecTrac, GolfTrac, FoodTrak reports, and many more. Using these tools in the trend analysis process will be much easier if you compile them in your activity on a daily basis. Even when no negative trend exists, collecting product counts, patron counts, average check data, and sales by period data builds a historical base for you to use for comparison.

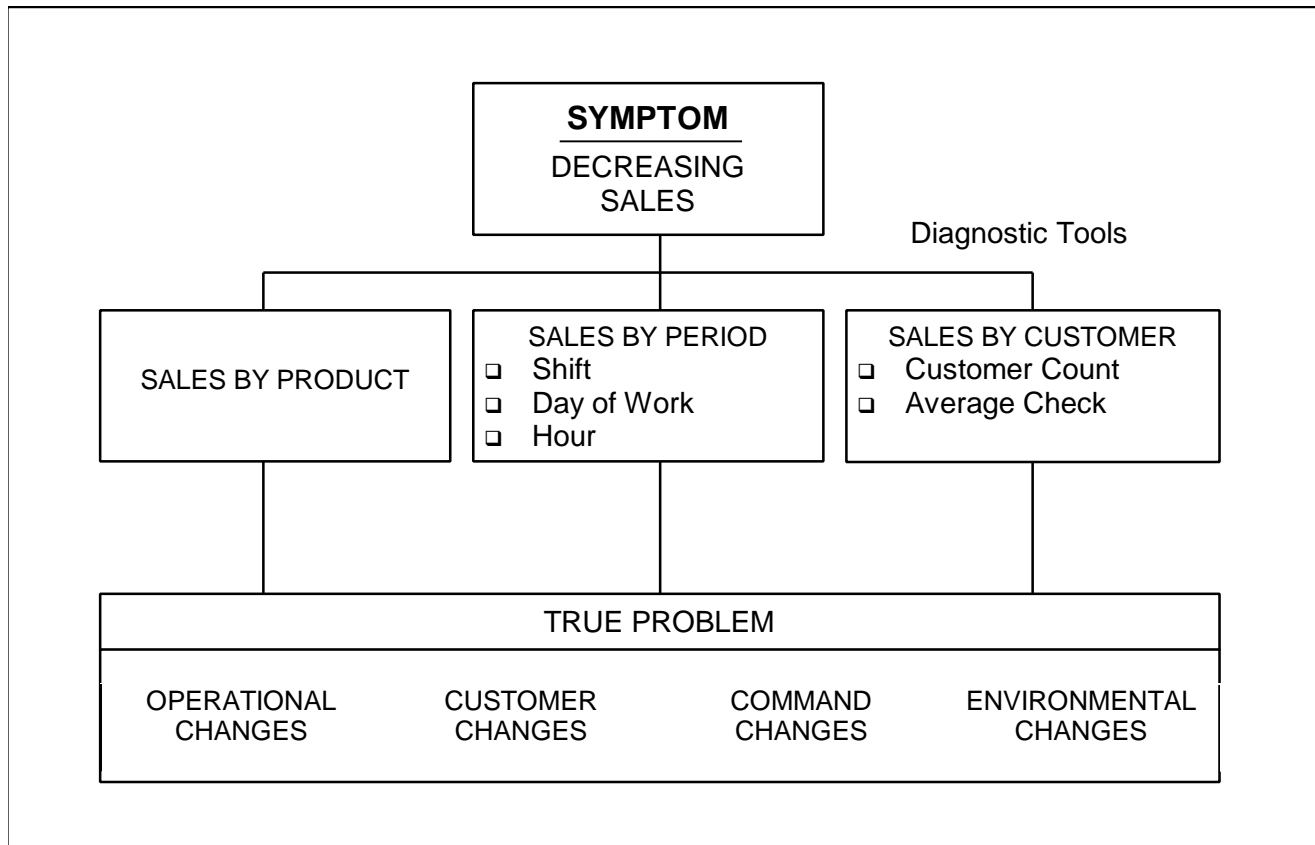
Now that we have explored the general process used to lead the manager to treating causes instead of symptoms, let's look at some of the specific diagnostic tools used to investigate negative sales trends.

## **DIAGNOSTIC TOOLS**

The point of emphasis here is that no one tool is applicable to all activities. You may need more than one to get to the bottom of a specific negative trend. Familiarize yourself with all the tools available, and apply the ones that are most likely to lead to a solution.

## **SALES BY PRODUCT**

This analysis is most appropriate for use when you suspects sales decreases are being caused by reduction of a specific product or product category. The comparison can be accomplished in either dollars or in units of product. If the analysis is prepared in dollars, the data can be extracted from readings on cash registers. If the



**Figure 2-5: Using diagnostic tools to identify causes for negative sales trends.**

analysis is prepared in product units, the information can be extracted from programmable cash registers or inventory/merchandise receipt records.

Figure 2-6, shows a comparison of dollar sales by product for a number of months and allows management to identify specific products that caused the sales decline and products which are not selling well. Once the specific products are identified, you can relate them to other operational changes that may have impacted on the negative trend. In our example, Type X golf clubs show a definite decrease in the number sold from month to month. You may discover that this trend began when Ping introduced their new golf club and customer preference changed or the decrease may have begun when a new discount store off post opened and your price was no longer the

\$ SALES BY PRODUCT BY MONTH						
ITEM	JAN	FEB	MAR	APR	MAY	JUN
GOLF BALLS TYPE X	100	90	125	150	200	250
GOLF BALLS TYPE Y	50	40	40	50	45	50
GOLF SHOES TYPE X	130	140	150	150	125	100
GOLF SHOES TYPE Y	100	140	180	200	250	250
GOLF CLUBS TYPE X	250	225	225	200	175	150
GOLF CLUBS TYPE Y	175	175	200	190	210	225

**Figure 2-6: Sales by produce (month-to-month comparison).**

lowest in town. In addition, Type Y golf balls show a continuous history of low sales. Here you may need to decide if the product should be retained in the product line.

The example at Figure 2-7 illustrates a second product comparison analysis. In this analysis we have compared like products for the same months from one year to the next. Last year, the TYPE X balls were a mediocre seller. But this year they're doing great. They sold twice as much in January as they did in July last year. Just the opposite is true for the TYPE X shoes and clubs. Last year, they were selling extremely well, but this year they have taken a nosedive. What happened to cause these changes? There are a number of possibilities you should look at:

- Product specifications
- Product preparation and presentation
- Has the quality changed? Does the price reflect quality?
- Competitor pricing.
- Has your market changed? Is the product correct for your target market?
- Should you continue to stock and sell the product?
- Reduce the price as a promotional strategy?

\$ SALES BY PRODUCT BY FY									
ITEM				JAN	FEB	MAR	APR	MAY	JUN
GOLF	<u>BALLS</u>	TYPE X	(FY19X2)	100	90	125	150	200	250
GOLF	<u>BALLS</u>	TYPE X	(FY19X1)	50	40	40	50	45	50
GOLF	<u>SHOES</u>	TYPE X	(FY19X2)	130	140	150	150	125	100
GOLF	<u>SHOES</u>	TYPE X	(FY19X1)	100	140	180	200	250	250
GOLF	<u>CLUBS</u>	TYPE X	(FY19X2)	250	225	225	200	175	150
GOLF	<u>CLUBS</u>	TYPE X	(FY19X1)	175	175	200	190	210	225

*Figure 2-7: Sales by product (year-to-year).*

In conclusion, use of the Sales by Product Analysis is particularly effective and helpful when the causes of the negative sales trends are based on product quality, price changes, stockage and inventory problems, and product line. The sales by product analysis is one of the most difficult and time consuming to prepare especially for MWR activities that have a large number of items in their resale inventory. Use of the right type of sales recording equipment (programmable cash register or computer) can simplify the task considerably and provide management with the ability to identify variances in product sales quickly.

## SALES BY PERIOD

These analyses are used to determine if the sales decrease is limited to a specific time period, shift of the day, or day of the week as opposed to being experienced across the board. These types of comparisons are normally accomplished in dollars as opposed to units sold. There are several different ways or breakouts of information that are used in these types of analyses. These different breakouts include: sales by hour, sales by shift (AM, PM, etc.), sales by day of the week, or by meal period. In addition, more definitive analysis of sales periods could be accomplished as required. As an example, sales could be analyzed for each 15 minutes for the lunch or evening meal period to assist you in determining correct hours of operation.

The sales by period analyses are probably the easiest to prepare because the data required can be extracted directly from Daily Activity Reports (DARs), Cashier Reports, or by taking periodic readings from sales recording devices. They are most useful if the cause of the problem is poor service, hours of operation, staffing or lack of supervision. These types of analyses are also helpful if the problem is with only part of the activity. As an example, they will clarify that the problem is in the Golf Pro Shop in the AM, but not all day. In general, these analyses by their very nature narrow the time focus for management and allow management to concentrate on periods where performance is poor.

<b>\$ SALES BY DAY OF WEEK FOR JUNE</b>							
	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>
<b>WEEK 1</b>	125	150	250	300	550	350	200
<b>WEEK 2</b>	100	175	225	275	550	375	190
<b>WEEK 3</b>	110	170	300	250	525	325	190
<b>WEEK 4</b>	<u>90</u>	<u>165</u>	<u>275</u>	<u>200</u>	<u>535</u>	<u>350</u>	<u>175</u>
<b>TOTAL</b>	425	660	1050	1025	2160	1400	755
<b>AVERAGE</b>	106	165	263	256	540	350	189

*Figure 2-8: Sales by day of the week.*

The Sales by Day of the Week analysis shown at Figure 2-8 provides you with base information such as which days have lower sales and might be a target for sales promotion events or closing. In addition, this analysis may reveal the beginning of general sales trends or specific daily trends. In this example both Monday and Sunday are low sales days and show a general downward trend over the past 4 weeks. While this analysis might not be for a long enough period to make a major operational change, it might well lead you to prepare the analysis shown at Figure 2-9.

<b>AVERAGE \$ SALES BY DAY OF WEEK</b>							
<b>ITEM</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>
<b>JAN</b>	50	300	355	400	500	200	0
<b>FEB</b>	60	325	395	375	475	200	0
<b>MAR</b>	65	314	345	325	505	245	95
<b>APR</b>	85	270	300	300	500	275	125
<b>MAY</b>	98	200	285	275	520	310	135
<b>JUN</b>	106	165	263	256	540	350	189

*Figure 2-9: Average dollar sales by day of the week.*

This figure reflects quite a different picture for management to consider. If this activity does not experience any seasonal trends, management has now isolated the negative sales trends on Tuesday through Thursday as problematic and must now explore operational causes for the trend that is emerging. The real cause for the reductions in sales experienced Tuesday to Thursday may be rooted in increased soldier training during the heart of the work week. Since this is a variable that you cannot control, the corrective action may need to be focused at minimizing operating costs during this period. The important point to emphasize here is that if you had not determined that reduced sales during the heart of the week was a major symptom of the problem, then the increased soldier training might not have been identified as a cause, and emphasis on reducing operating costs during those periods might never have been implemented.

Figure 2-10 illustrates a Sales (Dollar) by Hour Analysis. As with the previous analyses you must look for declining trends and particular hour periods where sales are low. In our example, you must decide whether some operating change is impacting on sales at the end of the day or if that is a irreversibly slow period when the activity needs to be closed. As an example, low use during that period could be a result of soldiers having to prepare for a retreat ceremony at 1700 hours or, on the other hand, the late afternoon time period is when employees are tired and customers have received poor service.

<b>Dollar Sales By Hour</b>						
	<u>11 - 12</u>	<u>12 - 1</u>	<u>1 - 2</u>	<u>2 - 3</u>	<u>3 - 4</u>	<u>4 - 5</u>
Mon	50	60	35	25	14	4
Tue	45	55	40	30	10	10
Wed	30	55	40	25	8	5
Thu	55	50	35	30	9	12
Fri	30	40	45	40	5	3
Avg	\$42.00	\$52.00	\$39.00	\$30.00	\$ 9.20	\$ 6.80

**Figure 2-10: Dollar sales by hour.**

Figure 2-11 shows comparison of current period sales data with that of a prior period. This type analysis can be prepared for any of the various period analyses previously discussed. In our example, we have compared the average meal period income by day of the week for FYX2 to the same data for FYX3. This analysis lets us compare the sales income from a current period to a like period the previous year. In our example, the analysis reveals that overall sales revenue is down slightly and that this decrease was caused totally by reduced sales for the breakfast meal. Armed with this information, we can identify operating problems during this period in an effort to recapture lost sales.

<b>\$ Sales by Meal Period</b>								
	<u>Mon</u>	<u>Tue</u>	<u>Wed</u>	<u>Thu</u>	<u>Fri</u>	<u>Sat</u>	<u>Sun</u>	<u>Total</u>
<b><u>FYX3 Data</u></b>								
Breakfast	25	35	50	45	25	10	10	200
Lunch	250	175	230	198	150	30	25	1,058
Dinner	75	125	250	275	425	305	195	1,650
TOTAL	350	335	530	518	600	345	230	2,908
<b><u>FYX2 Data</u></b>								
Breakfast	55	72	65	75	45	30	50	392
Lunch	221	155	195	190	140	50	50	1,001
Dinner	100	102	235	255	375	290	202	1,559
TOTAL	376	329	495	520	560	370	302	2,952

**Figure 2-11: Sales by meal period (FYX2 versus FYX3).**

As we wrap up our look at “Sales by Period” as a diagnostic tool, we are reminded that these types of analyses are very useful to management when causes are rooted in operating hours, operating days, or a specific operating problem is “running off” customers. By focusing on a specific area of operation (where a sales decrease is being experienced) we can identify true causes. In the example shown at Figure 2-11, identifying breakfast as the area causing the negative trend allowed us to narrow the focus and quickly correct operating problems such as poor menu planning, cold food on the breakfast buffet, non-competitive pricing and/or poor service.

In conclusion, the Sales by Period Analysis should be used in some form by each and every MWR activity that records sales. The Sales by Period Analysis is one of the easiest to prepare because the data is immediately available in the activity. Basic knowledge of increasing or decreasing sales trends on a daily, weekly, and monthly basis are key indicators for quick, effective management action.

## SALES BY CUSTOMER

As stated at the beginning of this chapter, total sales is determined by multiplying the number of product(s) sold times the selling price(s). This is the equation we used in our Sales by Product Analyses. A second equation, which also yields total sales, focuses on customer purchases and is the number of customers times the average amount they each spend. It is this equation upon which we will build the various types of Sales by Customer Analyses.

These types of analyses are most useful to management when the negative sales trend appears to be across the activity. Collecting the data required and preparing applicable Sales by Customer Analysis should be one of the first steps when a negative sales trend is discovered. The result of the analysis should then be compared to similar historical analyses.

The first set of data that is required to prepare this type of analysis is customer counts. This information can be gathered in a number of ways including periodic physical counts of the activity, door counters, cash registers, other sales recording devices, prenumbered sales tickets, or guest checks. In the case of cash registers and computers, the number of transactions will approximate the number of customers. Likewise, the number of sales tickets or guest checks will represent the number of customers. In some activities, you may find that it is advantageous to gather subsets of the basic customer count information. As an example, in clubs, it may be helpful to record the sales data by member and nonmember. In other activities recording customer counts by military and civilians may be important.

The second set of data required to prepare the analysis is the total net sales that matches the customer count. This data is extracted from the same documents from which the customer count information is collected. Register readings are used for cash registers and other mechanical sales recording devices. When sales tickets or guest checks are used, the sales from each ticket are simply totaled.

$$\text{Average Check} = \frac{\$ \text{ Sales per Period}}{\text{Customers per Period}}$$

**Figure 2-12: Formula for average check.**

From these two sets of information, the average check or average sales per customer can be computed. Figure 2-12 shows the formula for average check. The results of applying the formula provides per capita sales data. The resultant number allows you to compare the current average check with those of a previous period regardless of the customer base.

The real point of performing the Sales by Customer Analyses is to determine whether fewer customers or less sales per customer are causing the overall negative trend. Figure 2-13 illustrates a simple customer count analysis. In this particular example, the total overall customer count has remained constant, but use of the facility by the military shows a declining trend over five of the six months. In this case, you must look at what is happening operationally that may be impacting on the military customer. In addition, you must look at what is happening at the installation which may be impacting on the military customer. As an example, the installation might have battalions rotating to the National Training Center, thus reducing the customer base. On the other

hand, increased civilian and retiree use may be restricting availability for military personnel. Only after operational review, can you determine the true cause and formulate an intelligent strategy to combat the problem.

<b>Customer Count by Category</b>						
<u>Category</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>
Military	525	550	500	430	400	375
Civilian	250	200	200	250	275	300
Retired	400	425	400	425	425	450
TOTAL	1175	1175	1100	1105	1100	1125

**Figure 2-13: Customer count analysis.**

Figure 2-14 combines the customer count data above with the sales data for the same period to compute an Average Check by Month Analysis. This analysis alone would not have shown management the negative trend in Military use or the increased use by civilians, but it does show that the average amount spent by a customer shows a declining trend since March. When this trend is combined with the fact that management changed pricing strategies in March, it appears that we may have discovered a possible cause of the sales decline. If, for example, this activity is a golf pro shop and the price change made the sell price for clubs higher than the discount houses downtown, the loss of club sales could easily account for the downward trend.

<b>Average Check by Month (in Dollars)</b>						
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>
Total Sales \$	4,876	4,759	5,555	5,200	5,050	5,000
Customer Count	1175	1175	1100	1105	1100	1125
Average Check	\$4.15	\$4.05	\$5.05	\$4.71	\$4.59	\$4.44

**Figure 2-14: Average check analysis.**

The final type of analysis we will discuss in this section is an average check comparison between the same months in two or more years. Figure 2-15 illustrates this concept by comparing the first six months of FYX1 with the same months in FYX2. This analysis lets you see how customer spending patterns have changed over time. This type of analysis is very useful for those activities where seasonal buying patterns may make comparison of average check from month to month of no value. You would have to look at the comparisons between years and then, where negative trends exist, decide what operational changes may have caused them.

In the example above, when FYX2 is compared to FYX1 the first four months reveal that the average check was increasing. The most recent two months show a negative trend. Here again, we must review operational changes that might have impacted to cause the rapid change from a positive to negative trend. By using the average check comparison, we have ruled out customer base changes. What we know is that the average person who is purchasing in the facility is spending from \$.25 to \$.40 less than last year. This downward trend could be caused by lower pricing in off post competitive activities, it could be caused by a sale in our store to reduce current inventory or it might be caused by the fact that customers have less disposable income to spend on recreational merchandise. In the first two cases, we can plan strategies to overcome the cause of the negative trend. The third



case is more difficult to offset. In the case of an uncontrollable cause, management may have to accept the reduction in income and look for possible cost savings.

Average Check by Month FYX1 vs FYX2						
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>
Average Check (FYX1)	\$3.75	\$3.95	\$3.85	\$3.75	\$3.80	\$3.85
Average Check (FYX2)	\$4.15	\$4.05	\$3.95	\$3.85	\$3.60	\$3.40

**Figure 2-15: Average check comparison (FYX1 versus FYX2).**

Preparing the Sales by Customer Analysis is most effective and revealing when the negative sales trend was caused by changes in customer base/use, price changes, competitive pricing, merchandise selection, customer preferences or negative economic trends in the economy. This analysis is formulated to look at operations from a global perspective and is not useful for identifying problems in a specific sales period or in a specific product line.

## SUMMARY

In this chapter we have looked at a number of different types of analyses which can be used to assist us in identifying the cause(s) of negative sales trends. For convenience, we have divided these types of analyses into three categories: Sales by Product, Sales by Period, and Sales by Customer. We have discussed use of each of these types of analyses and provided examples which should assist with preparing similar analyses in the field. One of the key requirements to preparing these analyses is capturing the data. In order to assist management with the data collection process we have prepared several spread sheet formats that can be used to tabulate the data. The following sample formats are enclosed at the end of this chapter

- Sales By Product (Form 2-1)
- Sales By Day of the Week (Form 2-2)
- Sales By Hour (Form 2-3)
- Customer Count By User Category (Form 2-4)
- Average Sales By Month (Form 2-5)

Use of the various analyses presented in this chapter are not mutually exclusive. Often one negative sales trend will require an analysis from several different perspectives. As an example, application of the Average Check Analysis showing that customers are spending less may need to be cross checked against several Sales By Period Analyses to identify specific times or days when customers are spending less.

## CHAPTER WRAP-UP

### KEY POINTS

- Sales is defined as the income collected when merchandise changes hands “permanently” to the consumer. It excludes fees and charges for temporary use of a product to participate in a program.
- The single fact that distinguishes sales from other operating incomes is that there is always a product cost (cost of goods sold) associated with sales.
- The formula to calculate net sales is shown below
  - + Cash Sales
  - + Credit Sales
  - + Layaway Sales
  - Sales Returns and Allowances
  - Customer Discounts
  - Employee Discounts
  - = Net Sales
- Sales trends can be monitored in either “real” dollars or as a percent of Total Revenue. A decrease in either real dollars or percent represent a negative trend.
- There are three categories of Sales Trend Analyses: Sales by Product, Sales by Period, and Sales by Customer. These analyses allow management to reduce total sales to “bite sized” pieces, thereby simplifying the process of relating causes to specific negative trends.
- In order to prepare the Sales Analyses cited above, management must be familiar with the source documents from which the information can be extracted. Often management must design systems which guarantee needed data is not lost during the recording process or when entered in the accounting system at CAO. The base source documents management should be familiar with are:
  - Daily Activity Report (DAR)
  - Cashier’s Report
  - Cash Register Reading and Detail Tapes
  - Scatter Sheets
  - Sales Accountability Inventories
- Full analysis of a negative sales trend often requires use of several different analyses.
- Although sometimes overlooked, management can often gain valuable information from analyzing positive trends as well as negative trends. It is just as important to know what the activity is doing right as it is to know what it’s doing wrong.

## REVIEW QUESTIONS

1. Only one analysis should be used to review a specific negative trend.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
2. Identify two causes of negative sales trends which management cannot control and, as a result, corrective action must be targeted at reducing expenses rather than regaining the lost market share.
3. Describe in words the meaning of the term average check.
4. List three ways to obtain customer count data. Which is the most accurate? Which requires the least management effort?
5. The Sales by Period Analysis should be prepared in some form for all negative sales trends.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
6. Which analysis would be most useful if management thought that poor service by a single employee was impacting sales?
7. You would use a comparison of this month to the same month last year as opposed to last month for an activity that has \_\_\_\_\_ sales trends.
8. Sales by Product data can be obtained from what feeder sources? Name at least two.
9. Why is it important to break net sales down into “bite sized” pieces?
10. What is the proper sales recording method for the purchase of a \$300 dollar set of golf clubs that was on sale for \$250?
11. What is the definition of Sales and what cost must always be present in a sales transaction?
12. Suggest four causes that might have contributed to the reduction in sales of Golf Club X (Refer to Figure 2-6).
13. In Figure 2-7, what action(s) would you consider as a manager for the two products that are apparently sliding in popularity?
14. Refer to Figures 2-8 and 2-9. Assume the downward trend in sales from Tuesday to Thursday is caused by increased soldier training. What strategies could management employ in an effort to offset the lost income? What should be done about the low sales on Sunday and Monday?
15. If your activity was suffering the reduced military patronage shown in Figure 2-13, what strategies would you use to gain their returned patronage?
16. Given the downward trend in average check shown at Figure 2-14, what action(s) might be used to encourage customers to purchase more?

[illegible]**Form 2-1: Sales by Product**

SALES BY DAY OF THE WEEK					Activity:			
WEEK	MON	TUE	WED	THU	FRI	SAT	SUN	TOTAL
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
YTD Total								

Form 2-2: Sales by Day of the Week

SALES BY HOUR					Activity:			
HOURS	MON	TUE	WED	THU	FRI	SAT	SUN	TOTAL
0600-0700								
0700-0800								
0800-0900								
0900-1000								
1000-1100								
1100-1200								
1200-1300								
1300-1400								
1400-1500								
1500-1600								
1600-1700								
1700-1800								
1800-1900								
1900-2000								
2000-2100								
2100-2200								
2200-2300								
2300-2400								
2400-0100								
0100-0200								
0200-0300								
0300-0400								
0400-0500								
0500-0600								
Total								

Form 2-3: Sales by Hour

CUSTOMER COUNT BY CATEGORY							Activity:						
CATEGORY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
<b>Military:</b>													
E1-E4													
E5-E6													
E7-E9													
O1-O3													
O4-O10													
<b>Civilian:</b>													
GS/NF 1-5													
GS/NF 6+													
<b>Retirees:</b>													
<b>Other:</b>													
<b>TOTAL</b>													

Form 2-4: Sales by Category

AVERAGE SALES/CUSTOMERS BY MONTH							Facility:					
	Activity 1			Activity 2			Activity 3			TOTAL		
Month	Sales	Cust Ct	Avg Chk	Sales	Cust Ct	Avg Chk	Sales	Cust Ct	Avg Chk	Sales	Cust Ct	Avg Chk
October												
November												
December												
January												
February												
March												
April												
May												
June												
July												
August												
September												
TOTAL												

Form 2-5: Average Sales/Customers by Month



# Chapter 3

## Reviewing Other Operating Income Trends

**Applied Financial Planning**

## **Chapter 3**

### **Reviewing Other Operating Income Trends**

The second revenue line and the third line in the summary income statement format is Other Operating Income. This line reports the total dollar amount of income generated from providing services at a MWR activity. This category of income is comprised of user fees, service charges, rental income as well as others too numerous to mention at this time. The type of income reported under this category of income varies widely depending upon the type of MWR activity we are reviewing.

In this chapter we will explore the basic definition of Other Operating Income (OOI), how OOI is recorded, how to monitor OOI trends, and finally, methodology to determine the causes for negative trends in OOI. We will describe and illustrate several interim analyses which will allow us to break OOI into its various component parts for further diagnosis and analysis. Armed with these tools, we will be able to pinpoint causes of negative trends.

The techniques and analyses described in this chapter will be very similar to those described in the previous chapter on sales. The major difference is in the basic understanding of what comprises the OOI, differences in the causes for trends, and the fact that in some MWR activities there are several different types of OOI that complicate the analysis. As an example, in a Child Development Center you might have registration fees, hourly care fees, full day care fees, part day preschool fees, school-age latch key fees, and USDA reimbursement all reported as OOI. Since each of these is compiled from several different transactions, the analyses process becomes some what more complex.

#### **DEFINITION OF OTHER OPERATING INCOME**

Other Operating Income can be defined as the revenue collected to pay for services or use of equipment/facilities. This type of revenue is distinguished from sales in that no tangible goods change hands and there is no cost of goods sold. This definition includes any fee charged for services, all income generated from customer use of tangible equipment, admission charges, and all income generated from concessionaire operated activities to include the Army and Air Force Exchange Service.

A second name, Income From Other Activities, is used interchangeably with Other Operating Income and is defined in exactly the same manner as stated above. Income From Other Activities is the older of the two terms but is still often found on the income statements printed by NAFISS. In general, this term has been removed from all other reference documents. Many of the long term employees of the system also continue to use it. From this point forward we will use only the term Other Operating Income (OOI) when referring to revenue collected in this category.

#### **CALCULATING OTHER OPERATING INCOME**

All of the 40 plus 500 series GLACs listed in DOD 7000.14-R can be used to record the various types of OOI. No one activity would use more than a few of the available GLACs. In general, there are two types of GLACs that are found in Appendix B. The first type of GLAC is a general purpose GLAC that can be used by several different types of MWR activities. Several examples of this type of GLAC are: 501 Service and Recreation Income, 504 Rental and Usage Fee Income, and 534 Instruction Income. The second type of GLAC is a special purpose GLAC that is designated for a specific type of MWR activity. Some examples of this type of GLAC are: 535 Lane Fees Income (Bowling), 518 POV Registration Fee Income (USAREUR Vehicle Registration Fund),

and 543 USDA Income (Child Development Centers). The more recent trend has been to add more accounts to allow you to breakout OOI into smaller pieces for analyses purposes.

Other Operating Income XYZ Bowling Center			
Other Operating Income			
+	501	Service and Recreation Income	\$120
+	534	Instruction Income	50
+	535	Lane Fee Income	9,124
+	536	Shoe Rental Income	722
=	Total Other Operating Income		\$ 10,016

**Figure 3-1: Calculating other operating income for a bowling center.**

Once the various GLACs which will be used in a specific MWR activity are determined, OOI is calculated by totaling the various accounts. Figure 3-1 illustrates a typical Bowling Center. Had we looked at the same data several years ago, both lane fees and shoe rental would have been recorded under GLAC 501 with the locker rental income. Addition of the extra GLACS allows the manager track individual revenues directly from the income statement more easily. The addition of these GLACs also makes identifying negative trends easier.

You must understand the proper use of the GLACs that are available and establish control procedures that ensure revenue is recorded accurately to the proper account. Accurate recording to the various OOI accounts will allow you to identify trends rapidly and analyze the causes more easily. Listed below are several of the common GLACs and their proper use:

*Account 501—Service and Recreation Income.* This account can be used to record revenue collected from any service and recreation activity provided by an MWR activity. It is the primary account used if no specialty GLAC exists.

*Account 502—Concessionaire Commission Income.* This account is used to record the commissions received from contractors who operate service or recreation activities under contract with the IMWRF or other NAFI.

*Account 503—Special Event Income.* This account is used to record the revenue from a specific event, special program or one-time activity. It is used so that management can identify “unusual” income and not confuse it with a normal increase in revenue.

*Account 504—Rental and Usage Income.* This account is used to record income for the use of facilities, equipment, utilities, or delivery services. It is normally used for recording a usage fee of any kind.

*Account 511—Cash Overage Income.* This account is used to record the amount of overages experienced by cashiers. Use of this account allows money not recorded under the proper revenue accounts to be recorded as income.

*Account 599—Miscellaneous Other Operating Income.* This account is use to record income that cannot properly be recorded in any other operating income GLAC.

The accounts listed above are only a few of the 40 plus accounts that are available. You should familiarize yourselves with the proper use of all of these accounts and, in conjunction with NAF Financial Services, choose the most appropriate to record OOI.

## HOW OTHER OPERATING INCOME IS RECORDED

The amount charged for fees, services or use is determined by an equation similar to the one used to determine sales. That equation is simply the price of the fee or service times the number of uses by the consumer. As an

example, if a customer uses hourly child care the charge would be the price per hour (\$1.50) times the number of hours of service (5 hours) or \$7.50. In the case of bowling the charge would be the price per game (\$1.10) times the number of games (4) or \$4.40.

If the information was recorded on the income statement in this manner, it would make analyses of trends much easier. Unfortunately, Other Operating Income, just as with Sales, is recorded transaction by transaction. In most MWR activities, mechanical cash recording devices are used to record OOI and establish cash accountability. In small activities, guest checks or prenumbered tickets are used in lieu of the mechanical devices. When Cashier's reports are forwarded to NAF Financial Services as part of the Daily Activity Report, the various types of OOI are recorded to the appropriate GLAC. These GLAC totals are reported on the income statement.

Monitoring Other Operating Income Against a Standard			
o	Increasing Dollars	=	Positive Trend
o	Same Dollars	=	Neutral Trend
o	Decreasing Dollars	=	Negative Trend

**Figure 3-2: Other operating income trends defined.**

When a single GLAC is used to capture a type of OOI, you may be able to relate income directly to use. However, when several different price services are recorded to the same GLAC, the GLAC total may not relate directly to the amount of use. As an example, if GLAC 535—Bowling lane fees is used to record open bowling at \$1.10 per game, A&R bowling at \$.75 per game, youth bowling at \$.50 per game

and league bowling at \$1.00 per game; then the number of games bowled cannot be determined directly from the gross amount of income in this GLAC. For that reason it is important for the manager to know which source documents cause NAF Financial Services to record the various dollar amounts to the GLACs that comprise Total Other Operating Income. You should be able to go to those documents to break OOI into their various components.

## HOW TO MONITOR OTHER OPERATING INCOME

OOI can be viewed in two ways: absolute dollars or as a percent of total revenue. The primary method used is absolute dollars. In the simplest terms, an increase in dollars over budget, the previous month, or the same month last year (whatever standard you are using) indicates a positive trend. Conversely, a decrease reflects a negative trend. This concept is illustrated in Figure 3-2.

Monitoring Other Operating Income Month to Month							
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Total</u>
Activity X	1,000	1,100	1,200	1,300	1,400	1,500	\$12,000
Activity Y	1,500	1,400	1,300	1,200	1,100	1,000	\$12,000

**Figure 3-3: Which activity shows a positive trend?**

Both activities shown in Figure 3-3 have the same YTD OOI. Which one would you want to operate? The month to month trend in actual dollars reveals that Activity X shows an increasing trend while in Activity Y the trend is negative. If you are the manager of Activity Y, you now have an indication or symptom of a problem. While this information is not sufficient to plot a course of action, it certainly points out a need for further analysis.

The OOI Percentage				
OOI %	=	OOI \$ ----- Total Revenue \$	x 100	
Where:	+	Sales		
	+	Other Operating Income		
	+	Other Income		
	=	Total Revenue		

**Figure 3-4: Calculating the OOI percent.**

The second method used to monitor OOI trends is the percent of revenue comparison. This method of comparison indexes OOI to revenue using the formula shown in Figure 3-4 and compares it to a similar index from the budget or a previous period. When using this comparison, we can determine if the percent is increasing or decreasing over the standard, but it is more difficult to determine if the trend is positive or negative. Conversely, the inability to determine the type of trend does not detract from its usefulness.

Figure 3-5 shows how this analysis might be valuable to managers even though no clear trend can be cited. In the ZYX Arts and Crafts, the Other Operating Income as well as Total Revenue has improved from last year and exceeds the budget estimate. While the overall trend for the activity certainly appears positive, it may be important for you to realize that OOI as a percent of Total Revenue is 1.0 percentage point below last year and 1.6 percentage points below budget. These changes may be an early warning that the nature of business in the Arts and Crafts is changing. Investigation of the causes for the shift may lead management to the fact that customers are buying more products in the sales store and performing the actual crafts work at home. Whatever the case, you now know that the mix of revenue has changed and you may want to either change the type of merchandise offered or the programs offered in the center to react to this change. The key point is why is OOI changing in comparison with sales.

## DETERMINING CAUSES INSTEAD OF TREATING SYMPTOMS

Once you have identified a negative trend in Total Other Operating Income, the next step is to begin breaking GLACs that comprise Other Operating Income into “bite size” pieces for analyses. While you could look at the income statement data at the Program Code or Location Code level, we recommend that you begin the analysis at the Department Code level. Working at the Department Code level allows us to begin at the lowest income statement reporting level and saves performing duplicate analyses at the Program and Location Code levels. With this starting point in mind, we can use the trend analysis techniques discussed in Chapter 1.

OOI as a Percent of Total Revenue ZYX Arts and Crafts			
	Jan X3	Jan X4	Budget Jan X4
Sales	\$ 4,000	\$ 4,500	\$ 4,100
Other Oper Inc.	6,000	6,500	6,300
Total Revenue	\$10,000	\$11,000	\$10,400
OOI Percent	60.0%	59.0%	60.6%

**Figure 3-5: OOI as a percent of total revenue.**

The first step in dissecting causes of negative trends in OOI is to review the trends reflected in the individual accounts that comprise OOI. Looking at the individual accounts may or may not be helpful depending upon how OOI is recorded in the activity. If, for example, the activity is a golf course which uses several 500 series GLACs to record the various types of OOI, this step may help isolate the negative trend. On the other hand, if the activity is an Equipment Issue Center that uses Account 501—Service and Recreation Income to record the majority of the OOI collected, then this step provides no help in isolating the negative trend.

Figure 3-6 illustrates how breaking Total Other Operating Income Back into GLACs may help the manager identify what component part of OOI is decreasing. In the example below both Accounts 533 and 534 (Instruction Income and Golf Cart Income) are generating the decreasing trend in OOI. Now that you have identified

these specific areas as contributing less than before you can look for specific operating problems that may be causing the reduced income. Is the golf pro so busy with tournament planning or course repair that there is no time to teach? Is poor maintenance of the golf cart fleet causing the reduced income? In this case, just identifying the specific part of the operation that is contributing less, allows you to identify possible causes and begin the solution process.

<b>Analysis of OOI GLACS</b> <b>Month to Month (Prime Season)</b> <b>ABC Golf Course</b>					
<u>Acct/Desc</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>Sept.</u>
509 Dues Inc	7,498	7,531	7,544	7,499	7,353
511 Cash Over	12	7	15	24	54
531 Green Fee	1,323	1,424	1,529	1,449	1,464
533 Golf Cart	2,904	2,975	2,634	2,323	2,001
534 Instruct	304	354	125	75	22
<b>TOTAL</b>	<b>12,041</b>	<b>12,291</b>	<b>11,847</b>	<b>11,370</b>	<b>10,894</b>

**Figure 3-6: Breaking OOI into component GLACS.**

In other cases or other activities the trend may be more global and all of the GLACs are contributing less, or all of the income is reported in one GLAC. In these cases, some supplementary diagnostic tools may be required to reduce Total Other Operating Income to the parts that comprise it. In general, the diagnostic tools shown below are quite similar to the ones used for analyzing sales and can be applied to any OOI GLAC which must be reduced for analysis. The diagnostic tools are:

- Income by product (service/charge)
- Income by Period
  - Shift (AM, PM, Midnight)
  - Day of the Week
  - Hour of the Day
- Income by Customer
  - Customer count
  - Average Sales per Customer

By breaking the Total Other Operating Income into “bite sized” pieces, it becomes easier for management to identify the true cause(s) of the negative trend. By isolating specific components of OOI where the negative trend is rooted, management can more effectively identify true causes. Some of the changes that might impact in the form of reduced OOI are:

- Operational causes
  - Hours/Days of operation
  - Pricing
  - Service
  - Facility appearance
  - Location

- Customer related causes
  - Population changes
  - Training exercises
  - Installation mission changes
- Command changes or decisions
- Environmental causes
  - Weather—Unexpected climatic changes
  - Competition—On and off post

Your challenge is to become familiar with the various analyses which can be done to reduce Other Operating Income to its component parts. Next, you must be able to relate negative trends isolated above to the operational changes that normally cause them. It is in this process that you may have to struggle through several layers of symptoms until you arrive at the real cause. Figure 3-7 diagrams the relationship between symptoms, diagnostic tools, and causes of the problem.

In order to use the analyses suggested, you will have to collect the historical data needed. In most cases this information is available at the Central Accounting Office or in the records maintained at your facility. Some of the source documents from which you will draw information are scatter sheets, programmable cash registers, Daily Activity Reports (DARs), Daily Cashier's Reports, and many more. Using these tools in the trend analysis process will be much easier if you compile them in your activity on a day to day basis. Even when no negative trend exists, collecting product counts, patron counts, average check data, and income by period data lets you establish a historical base to use for comparison.

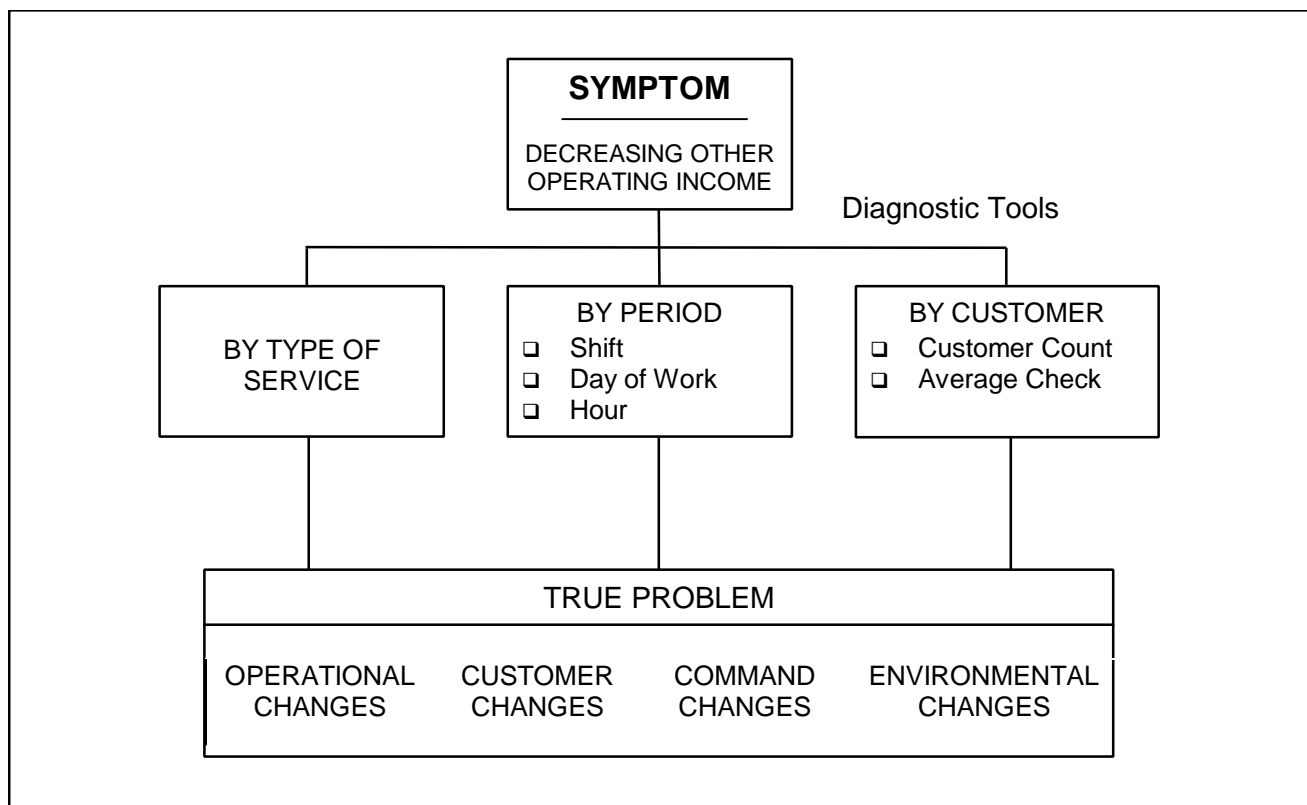
Now that we have explored the general process used to help you treat causes instead of symptoms, let's look at some of the specific diagnostic tools used to investigate negative OOI trends.

## **DIAGNOSTIC TOOLS**

The point of emphasis here is that no one tool is applicable to all activities and you may need more than one to get to the bottom of a specific negative trend. Familiarize yourself with all the tools available, and apply the one(s) that are most likely to lead to a solution. Previous experience and/or trial and error can help you successfully identify the correct analysis to use.

## **INCOME BY SERVICE OR CHARGE**

This analysis is most appropriate when you suspect income decreases are caused by a reduction in use of a specific service. The comparison can be accomplished in either income dollars or in units of service. If the analysis is prepared in dollars, then the data can be extracted from readings on programmable cash registers. If the analysis is being prepared in service units, the information can be extracted from programmable cash registers or other cash control records.



**Figure 3-7: Using diagnostic tools to identify causes for negative OOI trends.**

Figure 3-8, shows comparing dollar income by service for a number of months. This comparison allows you to identify the specific service(s) that caused the decline in income as well as services which are not used. Once the specific services are identified, you can relate them to other operational changes that may have impacted on the negative trend. In our example, income from hourly care services has declined sharply. Armed with this information, you may discover that an off post facility is offering hourly care service at cheaper rates or you may discover that the hospital is now seeing family members at different hours thereby reducing the requirement for hourly care services. Once you determine the true cause (the change in hospital hours), they can formulate a strategy to combat the lost income. In our example, you might determine that less hourly care spaces are required and convert those spaces to full-day service.

<b>\$ INCOME BY SERVICE BY MONTH</b>						
Activity	JAN	FEB	MAR	APR	MAY	JUN
Hourly Care	2,800	2,650	2,600	2,550	2,350	2,150
Full-Day Care	5,000	5,050	5,050	4,950	4,900	5,150
Part-Day Care	4,500	4,500	4,500	4,500	4,500	4,500
TOTAL	12,300	12,200	12,150	12,000	11,750	11,800

**Figure 3-8: Income by service (month-to-month comparison).**

The example at Figure 3-9 illustrates a second income by service comparison analysis. In this analysis we have compared like services for the same months from one year to the next. Our analysis earlier (Figure 3-8) indicated a downward trend in hourly care use. When we compare that use with last year it now appears that the shift in



use may be seasonal because the same trend existed last year. In fact, hourly care income is up each month over last year. The comparison at Figure 3-9 also shows that our real loss in income over the previous year is caused by less use of the full day program. What happened to cause these changes? There are a number of possibilities you should look at. Several of the key considerations are detailed below:

- Is the Service no longer as acceptable to the user?
- Is the service advertised and presented correctly for the market?
- Has the quality changed? Does the price reflect the quality?
- Competitor pricing.
- Has your market changed? Is this still the correct service for your target market?
- Should you continue to offer the service as it is presently packaged?
- Should we reduce price as a promotional strategy?

<b>\$ INCOME BY SERVICE BY FY</b>						
<b>ACTIVITY</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>
Hourly Care (FY19X3)	2,250	2,400	2,450	2,500	2,350	2,050
Hourly Care (FY19X4)	2,800	2,650	2,600	2,550	2,350	2,150
Full-Day (FY19X3)	5,875	5,795	5,699	5,205	5,250	5,750
Full-Day (FY19X4)	5,000	5,050	5,050	4,950	4,900	5,150
Part-Day (FY19X3)	4,050	4,050	4,050	4,050	4,050	4,050
Part-Day (FY19X4)	4,500	4,500	4,500	4,500	4,500	4,500

**Figure 3-9: Income by service comparison (year-to-year).**

After you look carefully for the reasons for the decrease in the full day program, you may find that it is really some small oversight that is easily corrected. In our example, an adjustment to the soldier's work week starting physical training at 0600 instead of 0630 could have caused the reduction. When management did not adjust the hours for the full-day program, soldiers were forced to make different arrangements for child care.

In conclusion, use of the income by service analysis is particularly effective and helpful when the causes of the negative trends are based in product quality, price changes, and service availability. The income by service analysis is one of the most difficult and time consuming to prepare. Use of the right type of sales recording equipment (programmable cash register or computer) can simplify the task considerably and provide you with the ability to quickly identify variances in individual different types of services.

## **INCOME BY PERIOD**

These analyses are used to determine if the income decrease is limited to a specific time period, shift of the day, or day of the week as opposed to being experienced across the board. These types of comparison are normally accomplished in dollars as opposed to units used. There are several different ways to display the data used in these type of analyses. These include: sales by hour, sales by shift (AM, PM, etc.), or sales by day of the week. In addition, more definitive analysis of income could be accomplished if required. As an example, income could be analyzed for each 15 minutes at the beginning or end of a shift to assist you in determining correct hours of operation.

The income by period analyses is probably the easiest to prepare because the data required can be extracted directly from Daily Activity Reports (DARs), Cashier Reports, or by taking periodic readings from sales recording devices. They are most useful if the cause of the problem is with poor service, hours of operation, staffing or lack of supervision. These types of analyses are also helpful if the problem is with only part of the activity. As an example, they will clarify that the problem is in the Golf Pro Shop in the AM but not all day. In general, these analyses by their very nature narrow the focus and allow you to concentrate on periods where performance is poor.

<b>\$ INCOME BY DAY OF WEEK For June</b>							
	MON	TUE	WED	THU	FRI	SAT	SUN
WEEK 1	250	350	375	450	550	425	350
WEEK 2	275	325	350	475	495	395	425
WEEK 3	225	375	400	450	525	405	300
WEEK 4	<u>195</u>	<u>250</u>	<u>325</u>	<u>400</u>	<u>475</u>	<u>375</u>	<u>275</u>
TOTAL	945	1300	1450	1725	2045	1600	1350
AVERAGE	236	325	363	444	511	400	338

*Figure 3-10: Income by day of the week.*

The Income by Day of the Week analysis shown at Figure 3-10 provides you with base information such as which days have lower income and might be a target for promotion events or closing. In addition, this analysis may reveal the beginning of general income trends or specific daily trends. In this example, Monday is a lower income period and shows a general downward trend over the past 4 weeks. While this analysis might not be for a long enough period to make a major operational change, it might well lead you to prepare the analysis shown at Figure 3-11.

<b>AVERAGE \$ OPERATING INCOME BY DAY OF WEEK</b>							
ITEM	MON	TUE	WED	THU	FRI	SAT	SUN
JAN	175	225	275	375	425	325	500
FEB	172	230	280	380	430	335	495
MAR	195	275	295	405	455	355	425
APR	205	305	325	425	525	375	350
MAY	215	300	315	460	515	405	325
JUN	236	325	363	444	511	400	338

*Figure 3-11: Average dollar operating income by day of the week.*

This figure reflects a quite different picture. While Monday may be the lowest income day, it has shown constant growth over the last six months. On the other hand, Sunday may be the income period where you need to focus attention. Over the six month period, income is off almost \$200. You should take immediate action to determine the operational causes for this negative trend. The real cause for the reduction in income experienced on Sunday may be rooted in something as simple as the fact that it is the managers day off and during that period service to the customer suffers. On the other hand, it might be that a change in customer preference for using the service is the real cause.

At any rate, you must now formulate a strategy to offset the identified trend. If lack of supervision and service are the true problem, then you can probably quickly correct the operating problem and again promote Sunday successfully. Conversely, if the true problem lies in the fact that customer preference has changed, you may find generating a strategy more difficult. The important point to emphasize here is that if you had not determined that the reduced income on Sunday was a major symptom of the problem, then the real cause might not have been identified. Ultimately, the activity might have closed on Monday instead of attempting to fix poor service on Sunday.

<b>Dollar Operating Income By Hour</b>								
	<u>11 - 12</u>	<u>12 - 1</u>	<u>1 - 2</u>	<u>2 - 3</u>	<u>3 - 4</u>	<u>4 - 5</u>	<u>5 - 6</u>	<u>6 - 7</u>
Mon	75	125	65	45	20	10	55	125
Tue	80	90	55	40	25	15	45	135
Wed	125	100	60	45	20	10	35	135
Thu	105	95	55	35	15	15	30	140
Fri	70	60	40	25	10	5	25	155
Avg	\$91.00	\$94.00	\$55.00	\$38.00	\$18.00	\$11.00	\$38.00	\$151.00

**Figure 3-12: Operating income by hour.**

Figure 3-12 shows an Income by Hour Analysis. As with the previous analyses, you must look for declining trends and periods where income is low. In our example, there are several very low use periods which could be targets for closing except that they are sandwiched in the middle of the operating day. Closing for that period would mean operating the activity on a split shift with hours from 1100 - 1500 and 1700 - 1900. On the other hand, management may want to consider reducing prices for the service during this slow period as an incentive to increase use.

Figure 3-13 shows comparison of current period income data with that of a prior period. This type analysis can be prepared for any of the various period analyses previously discussed. In our example, we have compared the operating income by shift for FYX2 to the same data for FYX3. This analysis lets us compare the income from a current period to a like period the previous year. In our example, the analysis reveals that overall income is down slightly and that this decrease was caused by reduced income in the morning and evening shifts. Further analysis will probably reveal that the reduction in both periods was caused by reduced league play. Armed with this data, we can focus efforts to sell lost league play or merchandise open bowling if the market exists. It is also

<b>\$ Operating Income by Shift XYZ Bowling Center</b>								
	<u>Mon</u>	<u>Tue</u>	<u>Wed</u>	<u>Thu</u>	<u>Fri</u>	<u>Sat</u>	<u>Sun</u>	<u>Total</u>
<b>FYX2 Data</b>								
0900-1200	25	35	50	45	170	112	75	512
1200-1700	22	135	20	33	198	150	135	693
1700-2300	993	874	1,125	1,250	1,275	745	425	6,687
TOTAL	1,040	1,044	1,195	1,328	1,643	1,007	635	7,892
<b>FYX3 Data</b>								
0900-1200	24	36	52	75	110	30	50	377
1200-1700	156	221	155	195	190	140	50	1,107
1700-2300	850	456	939	1,135	795	1,125	820	6,120
TOTAL	1,030	713	1,146	1,405	1,095	1,295	920	7,604

**Figure 3-13: Income by shift (FYX2 versus FYX3).**

worth noting that it is probably the sale of league or A&R bowling that caused the increased income on the afternoon shift.

As we wrap-up our look at “Income by Period” as a diagnostic tool, we are reminded that these types of analyses are very useful to identify problems rooted in operating hours or operating days. Additionally, they may allow us to identify specific operational problems that are “running off” the customers. By focusing on a specific area of operation (where the operating income is decreasing), we can identify true causes. In the example shown at Figure 3-13, identifying the shifts where the problem exists allowed us to narrow its focus and quickly identify lost league play as the problem. Now we know that we can attempt to actively sell available bowling league times if we want to recoup the lost income.

In conclusion, the Income by Period Analysis should be used in some form by each and every MWR activity that records Operating Income. The Income by Period Analysis is one of the easiest to prepare because the data is immediately available in the activity. Basic knowledge of increasing or decreasing income trends on a daily, weekly, and monthly basis are key indicators for quick, effective management action.

## INCOME BY CUSTOMER

As stated at the beginning of this chapter, total operating income is determined by multiplying the number of services “consumed” times the selling price(s). This is the equation we used in our Income by Service Analyses. A second equation, which also yields total operating income, focuses on customer services purchase and is the number of customers times the average amount they spend. It is this equation upon which we will build the various types of Income by Customer Analyses.

These types of analyses are most useful when the negative operating income trends appear to be across the activity. Collecting the data required and preparing applicable Income by Customer Analysis should be one of the first steps when a negative trend is discovered. The result of the analysis should then be compared to similar historical data.

The first set of data that is required for this type of analysis is customer counts. This information can be gathered in a number of ways including periodic physical counts of the activity, door counters, cash registers, other sales recording devices, prenumbered tickets, or guest checks. In the case of cash registers and computers, the number of transactions will approximate the number of customers. Likewise, the number of sales tickets or guest checks will represent the number of customers. In some activities, you may find that it is advantageous to gather subsets of the basic customer count information. As an example, in clubs, it may be helpful to record the operating income data by member and nonmember. In other activities recording customer counts by military and civilians may be important.

<b>Average Check</b> = $\frac{\text{\$ Oper Income/Period}}{\text{Customers per Period}}$
---

*Figure 3-14: Formula for Average Check.*

The second set of data required is the total operating income that matches the customer count. This data is extracted from the same documents where the customer count information was collected. Register readings are used for cash registers and other mechanical sales recording devices. In the case where prenumbered tickets or guest checks are used, the income from each ticket is simply totaled.

From these two sets of information, the average check or average income per customer can be computed. Figure 3-14 shows the formula for average check. The results of applying the formula provides per capita income data.

The resultant number allows you to compare current average check with those of a previous period, regardless of the customer base.

The real point of performing the Income per Customer Analyses is to determine whether less customers or less income per customer are causing the overall negative trend. Figure 3-15 illustrates a simple customer count analysis. In this particular example, the total overall customer count has remained constant but use of the facility by the military shows a declining trend over five of the six months. In this case, you must look at what is happening operationally that may be impacting on the military customer. In addition, you must look at what is happening at the installation which may be impacting on the military customer. As an example, the installation might be experiencing a troop draw down thus reducing the customer base. On the other hand, a major change in work schedule or mission may be restricting soldier time to use the activity. Only after operational review can you determine the true cause and formulate an intelligent strategy to combat the problem.

<b>Customer Count by Category</b>						
<u>Category</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>June</u>
Military	525	550	500	430	400	375
Civilian	250	200	200	250	275	300
Retired	400	425	400	425	425	450
TOTAL	1175	1175	1100	1105	1100	1125

*Figure 3-15: Custom count analysis.*

Figure 3-16 combines the customer count data above with the operating income data for the same period to compute an Average Check by Month Analysis. This analysis alone would not have shown you the negative trend in Military use or the increased use by civilians, but it does show that the average amount spent by a customer shows a declining trend since March. When this trend is combined with the fact that you changed pricing strategies in March, it appears that we may have discovered a possible cause of the operating income decline. If, for example, this activity is a golf course and the price change made the price for membership or green fees higher than the off post courses, then the loss of membership could easily account for the downward trend.

The final type of analysis we will discuss in this section is an average check comparison between the same months in two or more years. Figure 3-17 illustrates this concept by comparing the first six months of FYX2 with the same months in FYX3. This analysis lets management see how customer spending patterns have changed over time. This type of analysis is very useful for those activities where seasonal buying patterns may make comparison of average check from month to month of no value. You would have to look at the comparisons between years and then, where negative trends exist, decide what operational changes may have caused them.

<b>Average Check by Month (in Dollars)</b>						
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>
Operating Income	4,876	4,759	5,555	5,200	5,050	5,000
Customer Count	1175	1175	1100	1105	1100	1125
Average Check	\$4.15	\$4.05	\$5.05	\$4.71	\$4.59	\$4.44

*Figure 3-16: Average check analysis.*

In the example above, when FYX3 is compared to FYX2 the first three months reveal that average check was increasing. The most recent two months show a negative trend. Here again, management must review operational changes that have impacted to cause the change from a positive to a negative trend. By using the average check comparison, we have ruled out customer base changes. What we know is that the average person who is using the facility is spending from \$.20 to \$.45 less than last year.

Average Check by Month FYX2 vs FYX3						
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>
Average Check (FYX2)	\$3.35	\$3.25	\$3.05	\$3.75	\$3.80	\$3.85
Average Check (FYX3)	\$3.95	\$4.15	\$3.95	\$3.75	\$3.60	\$3.40

*Figure 3-17: Average check comparison (FYX2 versus FYX3).*

Preparing the Income by Customer Analysis is most effective and revealing when the negative sales trend was caused by change in customer base/use, price changes, competitive pricing, type of services, customer preferences or negative economic trends in the economy. This analysis is formulated to look at operations from a global perspective and is not useful for identifying problems in a specific period of time or in a specific type of service.

## SUMMARY

In this chapter we have looked at a number of different types of analyses which can be used to assist you in identifying the cause(s) of negative operating income trends. For convenience, we have divided these types of analyses into three categories: Income by Service, Income by Period, and Income by Customer. We have discussed use of each of these types of analyses and provided examples which should assist with preparing similar analyses in the field. One of the key requirements to preparing these analyses is capturing the data. In order to assist you with the data collection process, we have prepared several spread sheet formats that can be used to tabulate the data. The following sample formats are enclosed at the end of this chapter

- Income By Service (Form 3-1)
- Income By Day of the Week (Form 3-2)
- Income By Hour (Form 3-3)
- Customer Count By User Category (Form 3-4)
- Average Operating Income By Month (Form 3-5)

Use of the various analyses presented in this chapter are not mutually exclusive. Often one negative operating income trend will require an analysis from several different perspectives. As an example, application of the Average Check Analysis showing that customers are spending less may need to be cross checked against several Income By Period Analyses to identify specific times or days when customers are spending less.

## CHAPTER WRAP-UP

### KEY POINTS

- Other Operating Income is defined as the revenue collected for services provided or use of equipment/facilities. Also included in this definition is the commission paid to us by concessionaires who operate MWR related activities on the installation.
- There is never direct cost of goods associated with Other Operating Income.
- Total Other Operating Income is computed by totaling all of the 500 series GLACs used by the activity or program. There are forty plus GLACs, but no one activity would use more than a handful of them.
- Other Operating Income trends can be monitored in either “real” dollars or as a percent of Total Revenue. A decrease in either real dollars or percent represents a negative trend.
- There are three categories of Income Trend Analyses: Income by Service, Income by Period, and Income by Customer. These analyses allow management to reduce total operating income to “bite sized” pieces thereby simplifying the process of relating causes to specific negative trends.
- In order to prepare the Income Analyses cited above management must be familiar with the source documents from which feeder information can be extracted. Often management must design systems which guarantee that needed data is not lost during the recording process or when entered into the accounting system. The base source documents management should be familiar with are:
  - Daily Activity Report (DAR)
  - Cashier’s Report
  - Cash Register Reading and Detail Tapes
  - Scatter Sheets for Services
- Complete analysis of a negative operating income trends often requires use of several of the different analyses.
- Although sometimes overlooked, management can often gain valuable information from analyzing positive trends as well as negative trends. It is just as important to know what the activity is doing right as it is to know what it’s doing wrong.

### REVIEW QUESTIONS

1. The types of analysis used for Other Operating Income parallel those used to analyze Sales.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
2. What is the formula for computing the average check?
3. Describe four source documents from which the dollar amount of Other Operating Income can be extracted.
4. Why should the Income by Period analyses be used by management?
5. What is the major drawback to using the Income by Service Analysis?

6. Which analysis eliminates customer increases and decreases and tells management about the amount of money the consumer is spending?
7. Which analysis looks at income from a global perspective?
8. If the data shown in Figure 3-10 represents income for an Auto Crafts Program, suggest three strategies that management might use to improve income on Mondays.
9. Given the downward trend in Average Check shown at Figure 3-17, what strategies might you use to encourage customers to spend more money?



[illegible]

OPERATING INCOME BY DAY OF THE WEEK					Activity:			
WEEK	MON	TUE	WED	THU	FRI	SAT	SUN	TOTAL
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
Week 1								
Week 2								
Week 3								
Week 4								
Week 5								
Month Total								
YTD Total								

Form 3-2: Operating Income by Day of the Week

OPERATING INCOME BY HOUR					Activity:			
HOURS	MON	TUE	WED	THU	FRI	SAT	SUN	TOTAL
0600-0700								
0700-0800								
0800-0900								
0900-1000								
1000-1100								
1100-1200								
1200-1300								
1300-1400								
1400-1500								
1500-1600								
1600-1700								
1700-1800								
1800-1900								
1900-2000								
2000-2100								
2100-2200								
2200-2300								
2300-2400								
2400-0100								
0100-0200								
0200-0300								
0300-0400								
0400-0500								
0500-0600								
Total								

Form 3-3: Operating Income by Hour

CUSTOMER COUNT BY CATEGORY							Activity:						
CATEGORY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
<b>Military:</b>													
E1-E4													
E5-E6													
E7-E9													
O1-O3													
O4-O10													
<b>Civilian:</b>													
GS 1-5													
GS 6+													
<b>Retirees:</b>													
<b>Other:</b>													
<b>TOTAL</b>													

Form 3-4: Customers by Category

AVERAGE INCOME/CUSTOMERS BY MONTH							Facility:					
	Activity 1			Activity 2			Activity 3			TOTAL		
Month	Sales	Cust Ct	Avg Chk	Sales	Cust Ct	Avg Chk	Sales	Cust Ct	Avg Chk	Sales	Cust Ct	Avg Chk
October												
November												
December												
January												
February												
March												
April												
May												
June												
July												
August												
September												
TOTAL												

Form 3-5: Average Income/Customers by Month

# Chapter 4

## Analyzing Other Income

**Applied Financial Planning**

## Chapter 4

### Analyzing Other Income

Other Income is the final revenue line reflected on the income statement and at line 6a in the summary income statement format. This line reports the total dollar amount of income generated from other than operational sources.

In this chapter we will explore the basic definition of Other Income (OI), its sources, how to monitor OI trends, and finally, how to determine the causes of negative OI trends. We will describe and illustrate several interim analyses which will assist you in determining causes of reduced Other Income.

The techniques and analyses described in this chapter will be much less complex than those described for other categories of income. In general, the sources of other income are fewer and they are much more infrequent, often occurring less than monthly. As an example, charitable donations from Combined Federal Campaign are received only once or twice per year.

#### DEFINITION OF OTHER INCOME

Other Income is defined as revenue collected from other than normal operations. In other words, none of this revenue results from conducting the normal “business” of the program or fund. There are four sources of this revenue: interest, gain on sale of fund owned property, “grants” and charitable donations.

#### CALCULATING OTHER INCOME

There are only five different 800 series GLACs which can be used to record Other Income. These GLACs are shown at Figure 4-1.

Once the various GLACs that will be used in the specific activity or fund are determined, total OI is calculated by adding the various accounts. Use of several different GLACs to record the various types of Other Income lets the manager track individual sources of revenue directly from the income statement. Likewise, use of these individual GLACs makes identifying negative trends easier.

To effectively monitor the income statement, you must understand use of the various GLACs available to record Other Income. You must also ensure the revenue is recorded consistently to the proper account. Highlighted below are the accounts which can be used to record Other Income and their proper use.

*Account 801—Interest Income.* This account is used to record the interest paid on bank deposits. Under the One Fund concept it is only used at the IMWRF level.

Other Income	
+ 801	Interest Income
+ 803	Gain on Disposal of Fund-owned Property
+ 806	Nonoperating Sources of Revenue
+ 807	Contributions from Charitable Sources
+ 825	Miscellaneous Other Income
=	Total Other Income

Figure 4-1: Calculating other income.

*Account 803—Gain on Disposal of Other Fund-owned Property.* This account is used to record income from the sale of NAFI property that was expensed when purchased. Revenue should be recorded in department G1 of the location where the property was used. This account is not used to record the sale of fixed assets

*Account 806—Nonoperating Sources of Revenue.* This account is used to record nonoperating income, generally from the AMWRF or MACOM, received by the NAFI. This account would be used for operating grants or subsidies. Normally, this type of revenue is recorded at the fund level.

*Account 807—Contributions from Charitable Sources.* This account is used to record donations. The donation should be recorded in the G1 department of the applicable program.

*Account 825—Miscellaneous Other Income.* This account is used to record income that does not meet the criteria of any of the other accounts.

## HOW OTHER INCOME IS RECORDED

Other Income is generally isolated income that is received and recorded only periodically. Interest income is recorded at the CAO level at the end of each month. Donations and other “grants” are recorded when they are received. In each case, these transactions are not in the your daily routine. For that reason, management must take great care to ensure that proper entries are provided on the Daily Activity Report.

Since a separate GLAC is used to record each type of Other Income, you can relate changes in revenue directly to the individual accounts involved. Individual GLACs can be tracked from year to year or from month to month to assist you in determining the cause or reduced Other Income.

## HOW TO MONITOR OTHER INCOME

Other Income can be monitored in either absolute dollars or as a percent of Total Revenue. The most useful method is absolute dollars. As shown in Figure 4-2, an increase in dollars over budget, previous month, or the same month last year (whatever standard you are using) indicates a positive trend. On the other hand, a decrease shows a negative trend.

### Other Income Compared to a Standard

- |                      |   |                |
|----------------------|---|----------------|
| o Increasing Dollars | = | Positive Trend |
| o Same Dollars       | = | Neutral Trend  |
| o Decreasing Dollars | = | Negative Trend |

**Figure 4-2: Other income trends.**

### The Other Income Percentage

$$\text{OI \%} = \frac{\text{OI \$}}{\text{Total Revenue \$}} \times 100$$

Where:

$$\begin{aligned} &+ \text{Sales} \\ &+ \text{Other Operating Income} \\ &+ \text{Other Income} \\ &= \text{Total Revenue} \end{aligned}$$

**Figure 4-3: Calculating other income as a percent of total revenue.**

even though no trend can be specified. In the Ft XYZ IMWRF the Other Income as well as Total Revenue improved over last year. Total Revenue exceeded budget and the OI was on budget. All in all the trend would

The second method used to monitor OI trends is the percent of revenue comparison. Figure 4-3 demonstrates the formula to calculate OI as a percent of revenue. Applying this formula to both the standard and the current period information allows you to determine if the percent is increasing or decreasing. While it easy to determine the direction the percent is moving, it is more difficult to determine if the trend is positive or negative. The difficulty in determining the trend does not detract from its usefulness.

Figure 4-4 shows how this analysis might be valuable



probably be considered positive, but OI as a percent of revenue was .7% below budget. What this reduction in percent compared to budget shows is that the increase in OI is not keeping pace with the other increases. Whether or not this condition is serious or not is up to you to evaluate. There may be no reason to believe that OI will increase in proportion to Sales and Other Operating Income.

## FINDING CAUSES FOR NEGATIVE OTHER INCOME TRENDS

Once you identify a negative trend in Total Other Income, the first step in analysis is to break the total into the various GLACs that comprise it. By breaking the total into the “bite sized” pieces, you can apply any or all of the trend analysis techniques described in Chapter 1. By identifying trends in the individual accounts that make up other income, we can determine which account(s) caused the negative trend. Since each account used in Other Income reflects only one type of income, the process of isolating the cause of negative trends is less complex.

Other Income as a Percent of Total Revenue Ft XYZ IMWRF			
	Jan X3	Jan X4	Budget Jan X4
Sales	\$120,000	150,000	130,000
Other Oper Inc	400,000	430,000	415,000
Other Income	60,000	80,000	80,000
Total Revenue	\$580,000	660,000	625,000
OI Percent	10.3%	12.1%	12.8%

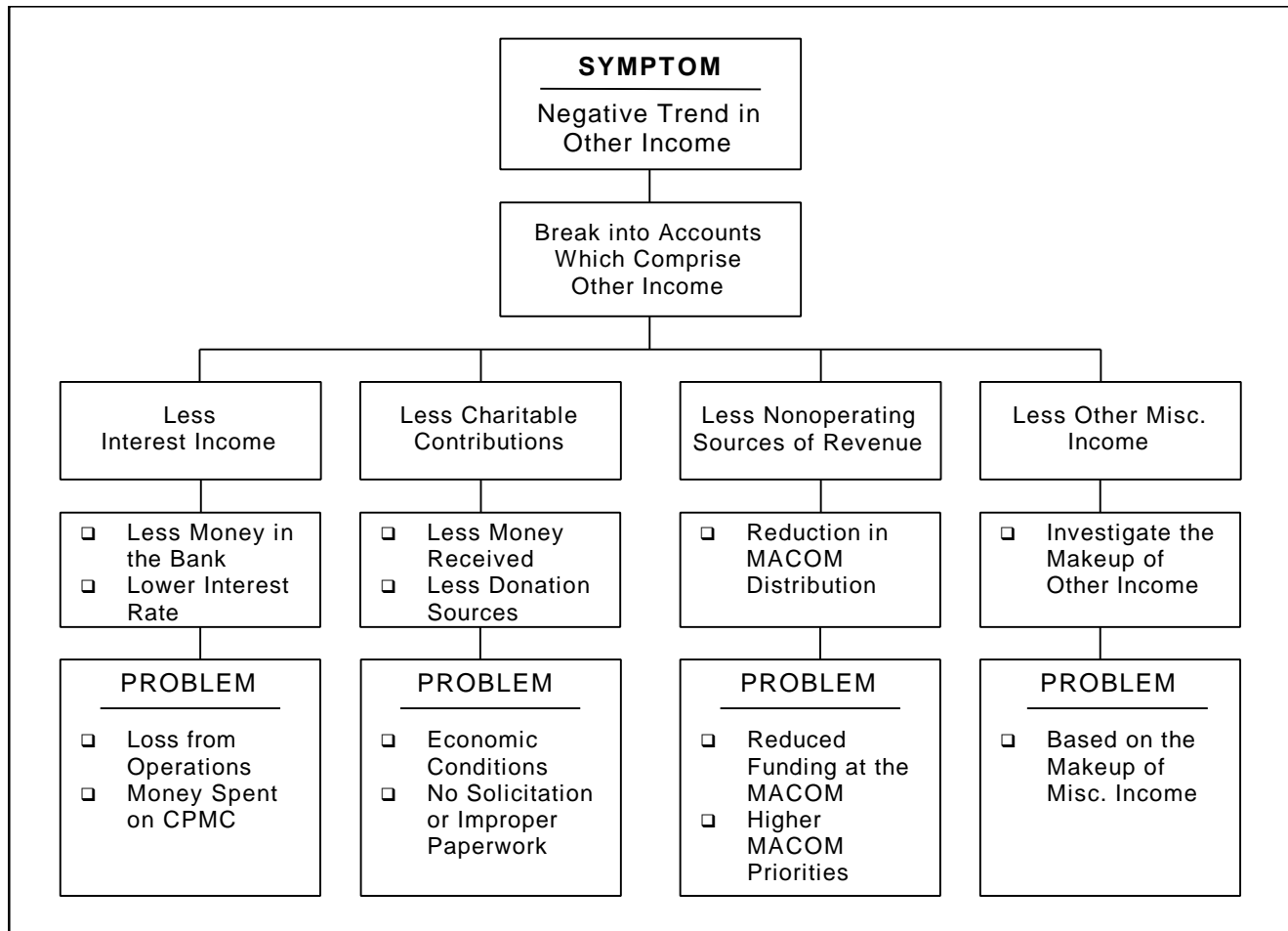
Figure 4-4: OI as a percent of total revenue.

Figure 4-5 shows the process of breaking Other Income into the GLACs that comprise it. In this example, Total Other Income has been fluctuating from month to month. The fluctuation was caused by a gradual reduction in interest income and the month to month fluctuations in the other accounts. The fact that interest income is dwindling probably indicates that cash in the bank is declining each month. This may be a cash flow problem or a planned strategy as you follow the cash plan, increasing inventory or executing the CPMC budget. Breaking Total Other Income into its components also reveals that for the last three months we have been disposing of our fixed assets at a profit. Here again, this may be good if it is excess equipment which will not have to be replaced. On the other hand, if it is equipment that must be replaced, it is likely that depreciation will increase to higher levels.

Analysis of OI GLACs Month to Month Ft XYZ IMWRF					
Acct/Desc	May	Jun	Jul	Aug	Sep
801 Interest Inc	\$7,234	\$7,123	\$7,023	\$6,997	\$6,999
803 Disp of Property			495		222
807 Cont from Char.		2,123			
TOTAL	\$7,234	\$9,246	\$7,518	\$6,997	\$7,221

Figure 4-5: Breaking OI into component GLACs.

When analyzing Other Income, it is seldom if ever necessary to use the type of diagnostic tools used for sales or other operating income. The primary focus is to determine which GLAC(s) are causing the negative trend. With an understanding of where the revenue in the various accounts comes from, it is a straight forward task to identify the true cause. Figure 4-6 demonstrates a sample of the relationship between the negative trends, contributing GLACs and the true cause(s).



**Figure 4-6: Sample of problems causing the negative trend in other income.**

In the remainder of this chapter, we will look at the individual GLACs and outline the possible causes for negative trends. Armed with possible causes, you should be able to review the GLAC and then determine which operational cause accounted for the negative trend.

## INTEREST INCOME

Interest is the most consistent form of other income and is calculated monthly by using the formula shown at Figure 4-7. A clear understanding of this equation shows that either a reduction in the bank balance or the interest rate would cause the interest income to fall. Based on this analysis, the true cause of the negative trend is that the amount of money in the bank decreased or economic conditions have reduced the interest rate. The reduced rate of interest is an uncontrollable variable. The causes for the lower bank balance can be limited to several events and both of these causes can be overcome with proper management strategy. The first cause for reduction in the bank account is that the business is losing money and the bank balance is being drawn down to meet operating expenses. The second cause is that management is reinvesting in the business by increasing inventory or fixed assets.

Analyzing interest income is best accomplished by either month to month comparisons or comparisons YTD this year versus last year. When a negative trend is discovered, you should have little difficulty discovering whether and why bank balances are down or if the interest rate is lower. On the other hand, strategies to recoup lost interest may need to be focused into other parts of the operation. As an example if interest is down as a result of the business losing money, then the “fix” must be improving financial performance.

### GAIN ON DISPOSAL OF FUND PROPERTY

A negative trend in Other Income caused by this account can only be identified and probably never improved. Since we are not in business to sell fund owned property, use of this account should be very occasional and you should spend no time trying to maintain activity in this account. Conversely, the possibility inherent in the availability of this account should be used as often as required. You should constantly identify and sell property that is excess to the needs of the fund.

### NONOPERATING SOURCES OF REVENUE

In most MWR activities this account will never be used and just as with the previous account, management can identify a negative trend caused by a reduction in the account but never improve it. All revenue reported in this account is MACOM or HQDA funding and totally beyond the control of local management.

### CONTRIBUTIONS FROM CHARITABLE SOURCES

In general, income from charitable sources is more regular and planned than many of the other forms of Other Income. For that reason if a negative trend is present in this account, you have some opportunity to recoup the lost income. The first step to tackling lost revenue in this area is to identify which donations were not received or the donation that was less than expected. If the missing or reduced donation came from Combined Federal Campaign or United Way, you must ensure that all qualifying paperwork is properly completed and filed and then, request review of the share received. If the source is a private or civic donation, you must seek alternative sources and convince them of the need for funds for specific service programs.

### SUMMARY

In this chapter we have looked at the various accounts that comprise Total Other Income with particular emphasis on what may cause a negative trend in these accounts. Since most of these sources of revenue are nonoperational, we have concluded that there is little direct action which you can implement to reverse the trends. Many of the negative trends can be directly attributed to changes in the U.S. and world economy. Interest rates, currency conversion indexes and the amount of funding provided by MACOM and HQDA lie far outside the purview of installation management.

The global nature of the causes should not impact on your efforts to identify and analyze negative trends in the Other Income area. In recognizing the lost Other Income and identifying alternative sources to replace it, you will improve activity performance and may even identify more subtle ways to improve Other Income through tighter cash management.

Formula for Computing Monthly Interest	
	AVG BANK BALANCE \$ x RATE x # DAY/MONTH
Interest =	-----
Income	365 (# DAYS/YEAR)
<b>EXAMPLE:</b>	
Fund bank balance is \$100,000 for a thirty-one-day month. The interest rate is 8.5%.	
	\$100,000 x .085 x 31
Interest =	----- = \$721.92
Income	365

Figure 4-7: Computing monthly interest.

## CHAPTER WRAP-UP

### KEY POINTS

- Other Income is defined as the revenue collected from other than normal operations. The funds are not generated directly from selling a product or service associated with the activities primary purpose.
- The major sources of Other Income are interest, gain on the sale of fund property, “grants” from higher headquarters, and charitable donations.
- Total Other Income is calculated by adding together all of the 800 series accounts.
- Other Income(except interest income) is, by its very nature, less periodic than other forms of revenue. By its isolated nature, it is relatively easy to determine the causes of negative trends.
- When a negative trend is discovered in Other Income, determine which GLAC(s) contributed to the trend. Once the GLAC(s) are determined, look for operational or economic changes that caused the reduction in revenue.

### REVIEW QUESTIONS

1. Charitable donations should be recorded to Department G1 of the program for which they are intended.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
2. The two major reasons for the bank balance to decline are \_\_\_\_\_ and \_\_\_\_\_.
3. Interest income is recorded to Department G1 of the program that earned the money.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
4. List three sources of Other Income.

# Chapter 5

## Total Revenue as a Management Tool

**Applied Financial Planning**

## Chapter 5

### Total Revenue as a Management Tool

Total revenue represents the total of all of the income collected in the activity and presented on the income statement. In this brief chapter we will explore how this total is defined and calculated, how to identify trends, and finally, how to identify the component that is causing the negative trend.

Once a negative trend in Total Revenue is identified, we will refer back to the information contained in previous chapters to determine the operational causes. This technique can be used because Total Revenue is comprised of the three types of income already discussed in Chapters 2 through 4. By identifying the type(s) of income that are causing the negative trend, we will then be able to apply the analysis techniques previously presented.

As an example, if Total Revenue is down \$4,000 from budget, the first step in our process will be to determine whether Sales, Other Operating Income, or Other Income caused this reduction in revenue. Once we determine that the lost revenue can be attributed to Other Operating Income, then we can apply all of the techniques and analyses described in Chapter 3.

#### DEFINITION OF TOTAL REVENUE

Total Revenue is defined as the mathematical total of all income recorded on the income statement. The three types of income which are normally combined are Sales, Other Operating Income and Other Income. This equation is shown at Figure 5-1.

Although seldom used, there is one additional account that could be included in Total Revenue. That additional account is GLAC 892—Extraordinary Income. This account is used to record special non-recurring income normally from a previous year. If it were used during the period, it would become the fourth element of Total Revenue.

#### Equation for Total Revenue

+	Sales
+	Other Operating Income
+	<u>Other Income</u>
=	Total Revenue

*Figure 5-1: Formula for calculating total revenue.*

#### WHY TOTAL REVENUE IS IMPORTANT

Total Revenue is an important number for us to fully understand because it is the number upon which all of the percentages (except Cost of Goods Sold) used for comparison are calculated. When NAFISS prepares an income statement, all income and expense totals (less COGS) are represented in dollars and also as a percent of Total Revenue. When comparing percentages, we must consider not only the percentage point change, but the comparison of the total revenue dollars and the expense or income dollars as well.

Consider the comparison shown in Figure 5-2. If we look at the percentage point change between Jan X4 and X5 we see that the expense increased 5.7 percentage points. When we begin looking at the cause of this alarming increase we see that the actual labor expense was nearly constant with a slight decrease of \$357. The real contributing factor here is the reduction in the Total Revenue by \$20,121.

Labor Expense Comparison			
	<u>Jan X4</u>	<u>Feb X4</u>	
Labor Expense	\$75,356	74,999	
Total Revenue	170,356	150,235	
Labor %	44.2%	49.9%	

**Figure 5-2: Labor expense comparison.**

In this case, we must first analyze the cause of the reduced revenue, and then, if this trend is expected to continue, consider how to reduce labor dollars proportionately.

As you can see from this simple example, the amount of total revenue can impact the percentages we use to index expenses between periods. In analyzing Total Revenue and the various revenue accounts that comprise it, it is important to consider the impact on the percentages.

## HOW TO MONITOR TOTAL REVENUE

You should monitor Total Revenue in absolute dollars using comparisons with one or more standards. Some of the standards of comparison should be Total Revenue in the budget, for previous months, or for the same month last year. Just as with the income that comprises total revenue, an increase over the standard indicates a positive trend. Conversely, a decrease reflects a negative trend. This concept is illustrated in Figure 5-3.

Monitoring Total Revenue Against a Standard			
O	Increasing Dollars	=	Positive Trend
O	Same Dollars	=	Neutral Trend
O	Decreasing Dollars	=	Negative Trend

**Figure 5-3: Total revenue trends defined.**

Monitoring Total Revenue				
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Total</u>
FYX3	\$74,503	\$75,807	\$76,354	\$226,664
FYX4	\$85,364	\$76,450	\$60,598	\$222,412

**Figure 5-4: What is the trend?**

decrease for the remainder of the year there may be no revenue to analyze. The first step in the analysis would entail breaking total revenue down into its component parts as shown in Figure 5-5.

With the layout shown in this figure, we can identify Other Operating Income as the component of Total Revenue that is causing the negative trend. Based on this diagnosis, we can then apply all of the techniques and analyses highlighted in Chapter 3 to determine the true causes of the negative trends and develop strategies to recover the lost income.

Because of its overall importance on the income statement, Total Revenue should be one of the starting points of analysis when each monthly income statement is received. In order to assist us in collecting and

Figure 5-4 shows a three month comparison between FYX3 and FYX4. There is a slight negative trend when we consider the quarterly total but when we look at the comparison between the months we discover a much more alarming pattern. In FYX3 the trend for the second quarter was sharply upward. Conversely, in FYX4 the trend shows a sharp downward trend. Here we must take immediate action to stem this serious reversal. If this trend continues at the same rate of

Analyzing Total Revenue FYX4				
	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	
Sales	\$13,146	\$13,240	\$13,198	
Other Oper Inc	69,985	61,051	45,302	
Other Inc	2,233	2,159	2,098	
Total Revenue	\$85,364	\$76,450	\$60,598	

**Figure 5-5: Reducing total revenue to its component parts.**

using this data for comparison, we have provided a Total Revenue by Month Format (Form 5-1) at the end of the chapter.

## **SUMMARY**

In this chapter we have defined Total Revenue and developed the equation to calculate it. We have explored the use of Total Revenue as a base number upon which all other income and expenses are indexed. Lastly, we reviewed how to break Total Revenue down to its component parts so that negative trends could be attributed to their causes.

This is the final chapter devoted to the revenue side of the income statement. In the next few chapters we will explore the expenses that offset this income.



## CHAPTER WRAP-UP

### KEY POINTS

- Total Revenue is defined as the mathematical total of all of the income recorded on the income statement.
- The equation for calculating Total Revenue is the sum of Sales, Other Operating Income and Other Income.
- Total Revenue is the base upon which all of the percentages (except the Cost of Goods Sold percentage) on the income statement are computed.
- When negative trends are found, the first step to finding the cause(s) is to break Total Revenue into its component parts (Sales, Other Operating Income and Other Income).
- Once the component(s) of Total Revenue which is contributing to the negative trend is identified, use the analyses and techniques covered in chapter 2 through 4 to identify the operational cause(s).

### REVIEW QUESTIONS

1. Total Revenue is calculated by adding together \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
2. The first step in analyzing a negative Total Revenue trend is to break it into the parts that comprise it.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
3. Total Revenue is the base from which all of the percentages on the income statement are computed.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
4. If Sales are \$4,300, Other Operating Income is \$16,339 and Other Income is \$270, calculate Total Revenue.
5. Using the information provided in review question number 4, calculate the labor percentage if Labor Cost is \$3,389.

Total Revenue by Month				
Month	Sales	Other Oper Inc	Other Income	Total Revenue
October				
November				
December				
January				
February				
March				
April				
May				
June				
July				
August				
September				
TOTAL				

Form 5-1: Total Revenue by Month

# Chapter 6

## Managing Cost of Goods Sold

**Applied Financial Planning**

## **Chapter 6**

### **Managing Cost of Goods Sold**

Cost of Goods Sold (COGS) is the first expense reported in the summary income statement format (at line 2). The total reports the dollar value of the number of units sold multiplied by their respective cost prices. While this description provides an accurate statement of the cost of the products sold, it is not the method used by NAF Financial Services to calculate the total reflected on the income statement.

The complex formula used by NAF Financial Services to calculate COGS records beginning inventory and all of the receipts for the period at cost. From this total of goods available for sale (at cost), NAF Financial Services deducts the cost of ending inventory and any merchandise that was transferred out of the activity. While this equation can be stated rather neatly, the number of transactions required allows many opportunities for operational and administrative errors and makes controlling COGS difficult.

In this chapter we will define COGS, develop the equation by which we calculate it, identify the four possible COGS trends, and explore methods to determine causes for negative trends. We will describe and illustrate several analyses which will assist in identifying the causes of negative COGS trends.

Cost of Goods Sold is the most difficult expense to control because of the large number of different variables that can impact on calculation of this total. For some activities the complexity of COGS is even greater because they buy raw ingredients and “make” a product which they then sell. This allows possible waste. Other MWR activities buy food and other perishable products which can spoil. Ensuring that spoilage or waste are documented further complicates control of COGS.

#### **DEFINITION OF COST OF GOODS SOLD**

COGS is defined as the cost associated with the purchase of goods sold at retail. In some cases that would just be the specific cost for the product purchased for resale. As an example, if we purchase a gross of golf balls at \$223.20 the cost per unit would be \$1.55 each. In another case, the COGS would be the specific cost of the item plus the freight cost. We might purchase a bowling ball at a cost of \$44.60 but have to pay \$3.65 each for shipping to our location. Thus the actual cost of goods sold would be \$48.25. In a third case, the cost of goods would be the aggregate cost of all of the items used to “manufacture” the product we sell. If we sell a hot dog, then the cost of the product is the total of the hot dog (\$.16), the hot dog bun (\$.11), and the estimated cost of mustard, onions, relish, etc. (\$.03) or a total cost of \$.30.

Based on this definition, the relationship between cost of goods sold and sales should be a direct relationship. Specifically, when more items are sold the COGS in dollars increases proportionally to the total sales in dollars. Figure 6-1 illustrates the fact that COGS is a variable cost. It is this variable cost relationship upon which we will later build much of our analyses of COGS trends.

### Cost of Goods Sold A Variable Expense

The term *variable expense* means that the cost moves proportional to the income as the income increases. Take for an example the sale of paint in the Arts and Crafts. A small bottle of paint sells for \$.80 and costs \$.60.

Number of Items Sold	4	40	400
Cost Price/Unit	<u>\$ .60</u>	<u>\$ .60</u>	<u>\$ .60</u>
Total Cost	\$2.40	\$24.00	\$240.00
Retail Price/Unit	<u>\$ .80</u>	<u>\$ .80</u>	<u>\$ .80</u>
Total Retail	\$3.20	\$32.00	\$320.00
Cost of Goods Sold Percentage	<u>75.0%</u>	<u>75.0%</u>	<u>75.0%</u>

As you can see in the illustration, the cost of goods percentage remains constant regardless of the number of units sold.

**Figure 6-1: Cost of goods sold is an absolute variable cost.**

## CALCULATING COGS

Simply stated, the formula for calculating Cost of Goods Sold is beginning inventory plus all purchases and receipts, minus all issues to other activities, minus any returns to vendors, minus ending inventory. Let's look at this equation as it is formatted and presented on the income statement. It is shown in two separate parts: Total Goods Available for Sale and Total Deductions (for those goods not sold). Figures 6-2 and 6-3 represent the two parts of the equation.

### Part I - Total Goods Available for Sale

Beginning Inventory	\$2,000
+ 401 Purchases	1,000
+ 402 Warehouse/Storeroom Requisitions	250
+ 403 Transfer from Other Funds	300
+ 404 Transfer from Other Activity/Dept	100
+ 432 COGS Inventory Overage	50
= Total Goods Available for Sale	<u>\$3,700</u>

**Figure 6-2: Calculating cost of goods.**

Part I of the equation is the dollar value of all of the products that were available for sale during the entire accounting period. The value of the beginning inventory is determined by a physical count of the products multiplied by the individual cost of each item. The remaining dollar values for GLACs 401 through 404 and 432 are posted from the value of the invoice or transfer voucher. All of these accounts are combined to yield the Total Goods Available for Sale.

Part II of the equation is the dollar value of all of the items that are left at the end of the month or were no longer available for sale during the period. The items no longer available for sale include items charged off to an expense account; items moved to another fund, activity, or department; and items returned to the warehouse. The value of the ending inventory is determined by a physical count of the products multiplied by the individual price of each item. The dollar value for all of the remaining GLACs is obtained from the total of the transfer out or credit voucher.

In the final step of calculating COGS, Total Deductions are subtracted from the Total Goods Available for Sale (Figure 6-4).

Part II - Total Deductions		
+ 411	Purchase Returns/Allowances	\$400
+ 412	Warehouse/Storeroom Issues	100
+ 413	Transfers to Other Funds	100
+ 414	Transfer to Other Activity/Dept	100
+ 416	Other Inventory Reductions	50
+ 452	COGS, Promotions	50
+ 453	COGS, Customer Rejected Goods	50
+ 454	COGS, Resale Merchandise SBO	50
+ 455	COGS, Whse/Storeroom SBO	50
+ 456	COGS, Inventory Shortage	50
+	<u>Ending Inventory</u>	<u>1,000</u>
=	<u>Total Deductions</u>	<u>\$2,000</u>

**Figure 6-3: Calculating the cost of goods sold.**

the accounts available and ensure that items posted in those accounts are handled correctly. Consistent use of the proper accounts is one of the first steps in monitoring COGS. In order to assist you, we have listed the primary GLACs below and defined their proper use.

*Account 401—Purchases.* This account is used to record the dollar value of all items purchased for resale.

*Account 402—Warehouse Storeroom Requisitions.* This account is used to record the dollar value of merchandise received by transfer from a warehouse or external storeroom.

*Account 403—Transfer from Other Funds.* This account is used to record the dollar value of merchandise received from another NAFL. This account would be used to record a transfer from the post restaurant or chaplain's fund.

*Account 404—Transfer from Other Activities/Departments.* This account is used to record the dollar value of merchandise received from another program, location or department. The department could be one in your own program or location. As an example, we move Tomato Juice originally purchased for the dining room to the bar department.

*Account 411—Purchase Returns and Allowances.* This account is used to record the dollar value of merchandise already purchased that is returned for credit to the vendor

*Account 413—Transfers to Other Funds.* This account is used to record the dollar value of merchandise transferred out to another fund.

*Account 414—Transfers to Other Activities or Departments.* This account is used to record the value of merchandise transferred out to another program, location, or department in the same fund.

*Account 416—Other Inventory Reductions.* This account is used to record the dollar value of merchandise when transferring the cost to an operating expense account. As an example, the golf balls normally sold at the golf

The three parts shown here as isolated pieces are combined on the actual income statement to calculate Cost of Goods Sold. The calculated figure represents all of the costs associated with purchase of the merchandise. It includes freight costs required to get the merchandise to the point of sale. COGS does not take into account the labor to "manufacture" and sell the product and the other costs of doing business such as supplies, utilities, or equipment.

As you can see from the information presented above, calculating COGS is a complex process. Probably no real activity would use all of the GLACs in a single year but they are available if needed. The important point of emphasis is that you should be familiar with

Part III - Cost of Goods Sold		
	Total Goods Available for Sale	\$3,700
-	<u>Total Deductions</u>	<u>2,000</u>
	Cost of Goods Sold	\$1,700

**Figure 6-4: Calculating the cost of goods.**

course could be given away as prizes for a specific tournament. In that case, the cost of the golf balls would be entered in this account to reduce inventory by that amount.

*Account 452—COGS, Promotions.* This account is used to record the cost value of merchandise that is given away to encourage customer attendance or return business. As an example, it would be the cost of a meal given away as a door prize during a happy hour promotion in the club.

*Account 453—COGS, Customer Rejected Goods.* This account is specifically used for food and beverage activities and is used to record the cost of food or beverage that is rejected by customers. As an example, a steak is cooked too done and the customer complains and the order has to be recooked. The cost of the first meal is written off from this account to the applicable expense account.

*Account 454—COGS, Resale Merchandise, Spoilage, Breakage, and Obsolescence.* This account is used to record the cost of inventory that is written to zero value because it is spoiled, broken or too old for use. Effort should be made to return merchandise to vendors prior to write off in this account.

As you review all of these different GLACS used to calculate COGS, it has probably occurred to you as it did to me that we could accomplish all of the accounting, if we just had an account for transfers in, one for purchases, one for purchase returns and one for transfers out (regardless of where they went). Were these accounts included only to confuse the issue or create jobs for accountants? In reality, they were included to allow you to see exactly what was happening to resale inventory. Without the specific accounts highlighted above, you would not be able to readily review how much product is being given away, rejected by customers, etc. Once again, review of the individual accounts help you understand what happened when they are not there.

## **COST OF GOODS SOLD OR COST ACCOUNTING**

We have referred to how Cost of Goods Sold is determined several times thus far in this chapter, but it is extremely important that you understand that the cost of the items sold reported on the income statement is computed based on the dollar information provided in all of the source documents (inventories, invoices, transfer vouchers, and credit memos). In our accounting system, we do not record the items sold and multiply them times their cost and use that number as our cost of goods sold.

Understanding the difference is important, because under the system we use, NAF Financial Services has no idea how many units of a particular product are available in your activity for sale or how many were sold. If the product is not carefully controlled, and theft or diversion occurs, NAF Financial Services cannot alert you that 15 widgets are gone from inventory and were not sold. Often locations or programs run internal stock control systems that provide this information.

The system currently in use also makes it extremely important that you indicate specifically which GLAC(s) should be charged for products received. The possibility exists within a location that sales occur in one department and costs accrue in another department. When the product is bought for the dining room and you fail to transfer the cost of the product to the bar, the income is going to one department while the cost is shown in another. Similar problems can exist when we buy the same products for resale and for use as an expense item. Unless you code the correct GLAC on the invoice, the opportunity exists to charge the cost to the wrong expense category.

## HOW TO MONITOR COGS

Cost of Goods Sold is monitored in terms of the Cost of Goods Percentage. As demonstrated early in the chapter (Figure 6-1) COGS should be an absolute variable cost always consuming the same percent of the resale price. Based on that ideal premise we monitor these expenses in terms of increases or decreases in the Cost of Goods Sold Percentage (COGS %).

<b>Formula for COGS%</b>			
<b>COGS%</b>	<b>=</b>	$\frac{\text{Cost of Goods \$}}{\text{Net Sales \$}}$	<b>x 100</b>

*Figure 6-5: Calculating cost of goods sold percentage.*

Before we discuss the types of trends and how to monitor them, let's take a backward step and review how the COGS% is calculated. Figure 6-5 illustrates the formula used to calculate this percentage. This is the only percentage calculated on the income statement that is indexed to Sales rather than Total Revenue. What does a 71.6% Cost of Goods Sold really mean? We hear the figure bantered around often but seldom do we stop and think that it really means that 71.6 cents out of every dollar collected are going to

pay for the product we sold. Conversely, this leaves only 28.4 cents out of every dollar to pay all of the other expenses associated with Sales: labor, utilities, supplies, depreciation on assets, etc.

As already stated, we monitor Cost of Goods Sold based on the COGS%. How do we define a positive or negative trend? In the case of all expenses, an increase in the percentage compared to the standard (budget, last month or this month last year) is considered negative. The difficulty with all expenses is defining what success looks like. Lower expenses or not spending enough can also be bad. If we buy a less expensive product and charge the same price as we would have for the more expensive product, it will probably be noted by the customer and impact on Sales.

In the case of Cost of Goods Sold, a cost of goods that is at the standard or slightly below is positive. You then ask what is slightly below? The answer is: it depends! It depends on what kind of product you are selling and at what point the customer's perception of value begins to be impacted. For commercially manufactured goods the band is probably very small because competitive pricing will limit the amount of profit management can expect. On food or locally created items, where there is no direct competition, the ability to decrease cost of goods is probably greater, provided you are doing creative things with your product. The point to remember is that regardless of product, there is a point where decreasing cost of goods or any expense may create a negative trend over the long run.

For the purpose of discussion in this chapter, we will characterize COGS as having four possible and distinctive trends. Each of these trends will be stated in comparison with the planned standard. The four types of trends are:

- 1. Increasing Percentage**—The COGS% shows a constantly high or upward trend over a period of several months. This trend is negative and is indicative of inflationary changes in the marketplace.
- 2. Decreasing Percentage**—The COGS% shows a constantly low or general downward trend over a period of several months. This trend normally occurs when a less expensive product of equal quality is found or introduced in the market. The trend could be positive or negative depending on the reaction of customers.
- 3. Consistent Percentage**—The COGS% fluctuates within an acceptable range of a point or two from the standard. This trend is positive and indicates good administrative and operational control of COGS.



**4. Fluctuating Percentage**—The COGS% escalates from positive to negative of the standard, usually far outside the range that could be expected by prudent management. This trend is extremely negative and indicates serious management problems with the operational and administrative controls.

Figure 6-6 demonstrates these trends by showing the raw data in a simple table form. This is the way you would see the numbers if they were extracted from the income statement. Figure 6-7 displays the same numbers graphically and may display the trends more visibly.

COGS Trends						
	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>
Increasing %	61.3%	62.4%	64.3%	64.5%	65.1%	67.8%
Decreasing %	61.3%	60.2%	59.6%	57.3%	55.8%	53.2%
Consistent %	61.3%	60.2%	61.5%	61.8%	59.5%	62.7%
Fluctuating %	61.3%	67.8%	53.5%	54.5%	71.3%	50.4%
Budget %	61.0%	61.0%	61.0%	61.0%	61.0%	61.0%

*Figure 6-6: Examples of COGS trends.*

Before we go on with analysis of COGS, let's ensure that we have a solid beginning. Identification and analysis of trends for COGS should be done at the department level of the income statement. We use that level to avoid contamination of sales data from another department which might be operating with a totally different trend. As an example, if the analysis was accomplished at the location level for a golf course it very well might include both pro shop and food sales.

For the remainder of this chapter, we will explore each of the trends to determine the problems that cause them. Since we are analyzing the COGS% trends, we must look at all of the elements used to calculate the percentage. With COGS%, we need to review the elements which make up COGS dollars. In addition, we must review the make up of Net Sales dollars. Before we focus on the specific trends and operational or administrative problems that might have caused them, let's focus generically on problem identification.

## HOW TO FIND THE REAL PROBLEM

For 20 years, we have witnessed scenes where the manager receives the income statement and COG% has gone up five percentage points. The first cry heard from senior management or the accountants is there was a bad inventory! True, that could be the problem, but what makes it that problem as opposed to the four or five others which would cause the same symptoms? It could be poor receiving procedures, no receiving reports, failure to complete a transfer voucher, or ringing sales on the wrong key of the register that caused the problem.

Finding the real cause of the problem requires a great deal more "sleuthing" than the SWAG (Scientific Wild A\_\_\_\_\_ Guess) often used to determine the cause. Before conclusions can be reached and corrective action taken, the symptoms must be identified since they may eliminate some of the list of potential causes. Here are some of the basic questions to start with:

- Does the symptom appear every month or is it intermittent? The answer to this question will help management to determine whether it is an incorrect procedure causing the problem or if the cause is an isolated mistake.

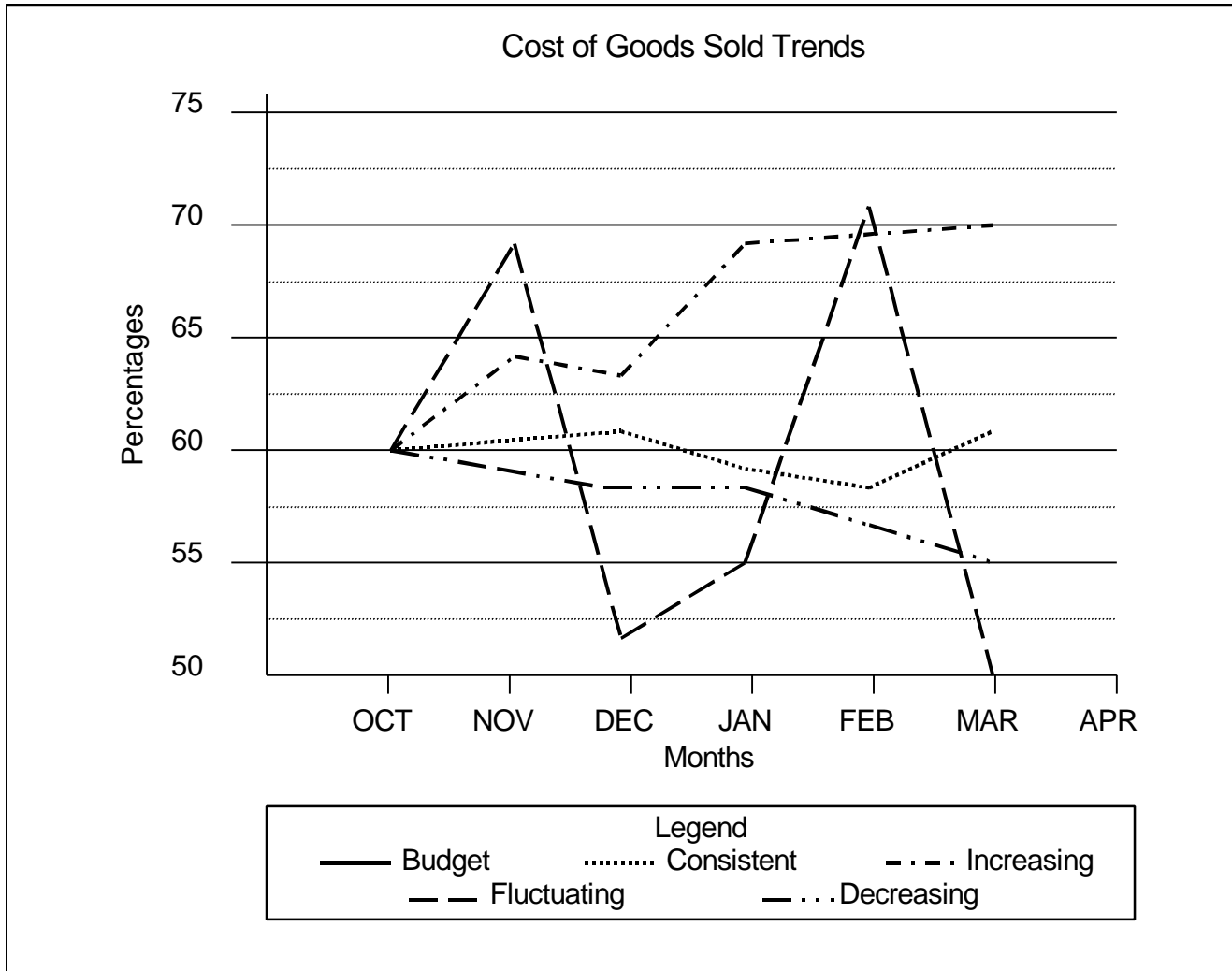


Figure 6-7: COGS trends illustrated.

- How long has the symptom been present? Was this caused by a new procedure or a change in personnel (a training problem)?
- What changed when the problem began? Was it management, employees, cash procedures, etc?

There are many more questions management may need to ask before they begin to hypothesize causes. In order to help you develop your own list of questions, let's look at a fairly comprehensive list of changes or problems which *could* impact on COGS%. In order to organize the list slightly, we have arbitrarily divided them into operational and administrative problems. The operational problems are defined by whether management or the employee did something incorrectly. Administrative problems are found where established procedures are not followed.

#### Operational Problems

- Employees counted the end of month inventory incorrectly.
- Merchandise received without submission of a receiving report.

- Partial receiving document not prepared.
- Pricing did not generate required COGS%.
- Merchandise moved between locations or department without a transfer voucher.
- Sales not recorded correctly at the point of sale.
  - Wrong Department
  - Discounts not recorded
- Customer or employee pilferage.
- Portion control not achieved.
- Spoilage, breakage, obsolescence not recorded.
- Waste not controlled.
- Sales mix changed.

#### *Administrative Problems*

- End of month inventory is priced incorrectly.
- End of month inventory is extended incorrectly.
- Receiving document processed against the wrong month.
- Freight cost not included in calculation of the price.
- Transfer voucher improperly priced.
- Transfer is not extended correctly.

Now that we have this laundry list of possible problems, so what? If we go back and look at each of these problems for a minute and think about the equation to calculate COGS and COGS%, we should be able to determine the impact of the error or problem on the COGS. If that problem causes the symptoms of the trend, it may be a cause. This is an important concept so let's look at several examples.

In our first example, let's assume that the employee taking inventory at the end of the month counts a case of golf balls as 144 each when in fact the case is 144 sleeves of three each. This mistake in inventory when extended reduces the ending inventory by the value of 288 golf balls. Since the cost of all the golf balls is in the purchases for the month but only 144 each are still there according to the ending inventory, the COGS is overstated for the month by the value of 288 golf balls. As a result the COGS% will be inflated over the expected level. You can readily see the impact of one error, suppose there are several!

Before we move on, the total impact is not concluded. Let's assume that the same employee takes inventory for the next several months always counting the case of golf balls incorrectly. For these several months the mistaken value of inventory is in both the beginning and ending inventory. As a result the COGS and COGS% are accurately stated and the continuing error has no impact. Finally, in the third month, the stockage level of the golf balls requires that the case be opened and used for stockage. When the golf balls are counted "each" at the end of this month there are more than there were on the original inventory. This increase in inventory value from "the found" golf balls increases the ending inventory and decreases COGS and COGS% percentage for the month. What we see here is a downward spike that generally offsets the upward spike of several months before.

In a second example, let's assume that we buy and sell loose golf tees. The price of these tees is supposed to be 20 tees for \$.50. When we first started selling this product, management had employees count out the tees and

place them in bags for easy handling. As time went on there was no longer enough time to bag tees so the procedure was changed to allow the customer to count out the tees. This worked OK, but customers occasionally took several extra tees. This scenario has evolved once more over time. Because customers complained that the counting took too long; the jar now reads one handful \$.50. Without even getting into the numbers you can see that the policy or lack of one is causing the COGS to grow larger. This is a different type trend because as long as the current policy is in effect it will never drop back down to the budgeted target.

Take a few minutes and go back through the list of possible causes above and see if you can think through the impact on COGS and COGS%. Determine if the change is temporary or long lasting. The mistake can be over or under statement of COGS. Make sure you can differentiate the impact of each. In order to identify causes of the negative trends discussed earlier in the chapter, you will need to be able to apply the impact of these possible causes to the equations for COGS and COGS%.

If we combine the impact of the problems on COGS and COGS%, we can develop a matrix of which problems are most likely to cause the three negative trends we defined earlier. That matrix is shown at Figure 6-8.

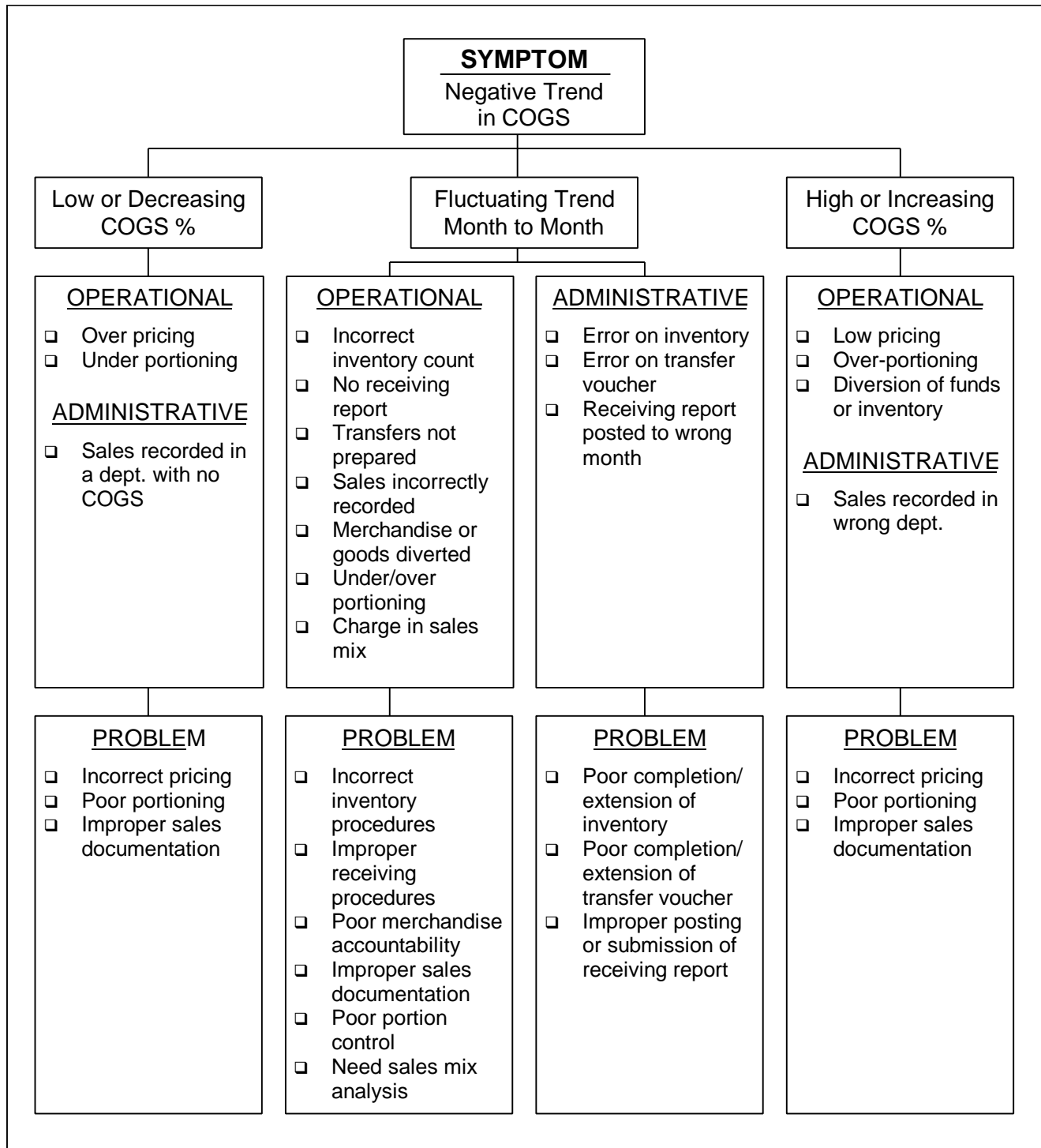
If we have moved too fast for you, don't worry because we are going to go back and look at each of the trends separately. We'll look at the symptoms and causes that would create the trend and in most cases we'll illustrate the problem with an example. Fear not, we'll find the causes yet. We'll start looking at the various trends and move through each systematically. Let's start with the easier trends first and work with the more difficult ones as we gain more experience. The easiest trend is the one that is consistent at a level around the standard.

### **TREND 1—CONSISTENT COGS%**

The symptoms related to this trend are a relatively stable COGS% fluctuating no more than one or two percentage points positive or negative from the standard. The cause for this kind of trend is that management has implemented and managed all of the control systems necessary to ensure stability of operations. Employees have been trained to complete the required administrative procedures and management spends an appropriate amount of time spot checking performance. The solution to this trend is to keep up the good work and pat yourself on the back because you belong to a very small group of MWR activities that demonstrate this performance.

### **TREND 2—LOW COGS%**

The symptoms related to this trend are a relatively stable COGS% several percentage points below the expected level. The trend shows that whatever is causing the problem is happening consistently because the low trend is constant. If we look at our list of possible causes we find only three potential causes which would yield this trend.



**Figure 6-8: Negative COGS trends matrixed to symptoms and causes.**

**Cause 1—Over Pricing.** If you consistently apply the pricing formula incorrectly then the COGS% can be lower than expected. Another twist on over pricing as a cause is that you may have applied the pricing formula correctly but over time the cost of the product went down without an adjustment of the price. Figure 6-9 illustrates this cause.

**At the Outdoor Recreation Marina the only product sold is gasoline mixed with oil in a 5-gallon can.**

Costs:	Unit	Jan	Feb	Mar	Apr
Oil	6 oz	\$1.20	\$1.20	\$1.21	\$1.22
Gas	5 gl	4.95	4.65	4.35	4.00
Total Cost		\$6.15	\$5.85	\$5.56	\$5.22
Sell Price		\$7.00	\$7.00	\$7.00	\$7.00
COGS %		87.9	83.6	79.4	74.6

NOTE: Assuming the target COGS is 85.0% then management can make the decision whether or not to make more profit or reduce selling price.

**Figure 6-9: Over pricing illustrated.**

**Cause 2—Under Portioning.** If you establish the quantity of a product that will be served for a given price and a lesser quantity of the product is actually served consistently then the COGS% will be lower than expected. This problem is often associated with serving food when employees substitute a smaller serving utensil for the correct one. The same thing can happen in other resale activities when the product count sold is incorrect. This concept is illustrated in Figure 6-10.

**Cause 3—Sales Recorded in the Wrong Department.** When several different department's incomes are recorded on the same cash register, inexperienced or uncaring employee have the opportunity to record income to the wrong department. As an example, one cash register is used to control equipment issue income (Key 1) and a small resale activity (Key 2). When an untrained employee rings all transactions on Key 2, the COGS% in the resale activity is lowered because of the extra income which has no cost of goods.

**The Recreation Center sells post-mix soda in a 16-oz cup for \$.45. Accidentally the cup size was changed to a 14-oz cup. The impact will be a decrease in COGS%.**

Costing Data		Actual Expense Data	
A 16-oz cup with ice will hold 8 ozs of post-mix based on testing		A 14-oz cup with ice will hold 6 ozs of post-mix based on testing	
SODA	\$ .015 per ounce		\$ .015 per ounce
	x 8 ounces		x 6 ounces
	-----		-----
	\$ .12 cost per cup		\$ .09 cost per cup
Sell Price	\$.45		\$.45
COGS %	26.6%		20.0%

**Figure 6-10: Under portioning illustrated.**

Now that we have identified the problems that could be causing the consistently low trend, what are the solutions? Keeping in mind that any or all of the causes could be occurring at the same time, management will have to carefully check for all of the problems and apply the solutions provided below as required.

**Solution 1—Over Pricing.** Establish periodic recosting of all resale merchandise to ensure market changes have not made sell prices higher than required. Use the Cost of Goods Method of pricing illustrated at Figure 6-11

to cost the resale merchandise. Ensure that the freight charges associated with resale merchandise are being charged to the purchases GLAC. If the items are priced correctly, but freight is charged as an expense, then the COGS% will be lower than expected.

$$\text{Sell Price} = \frac{\text{COGS \$}}{\text{Desired COGS \%}}$$

**Note:** Mark-Up is not the same as COGS. A mark-up of 30% does not equal a 70% COGS.

**Figure 6-11: Cost of goods pricing method.**

**Solution 2—Under Portioning.** Review the portions served by employees. Ensure that the correct portioning utensils and containers are the only ones available for employee use. Develop and display portion size lists in places where they are a ready reference for employees. In food sales areas, use standard recipes for all cooked items to ensure food cost is consistent. In all areas, train and retrain employees on correct portions and proper serving utensils/containers.

**Solution 3—Sales Recorded in the Wrong Department.** Review the entire sales documentation system. Ensure that a ready reference document is available for employees that tells them where to ring each item on the cash register. The most often used keys on the cash register should be separated as far apart as possible. Ensure Cashier's Report and Daily Activity Report clearly indicate the department where all income should be recorded. Ensure all new cashiers receive hands-on cash register training.

This concludes our review of the problem areas that will cause consistently low COGS %. While this negative trend is seldom found, when it is, it takes systematic application of the solutions with constant follow-up to "fix" the trend.

### TREND 3—CONSISTENTLY HIGH COGS%

The symptoms characteristic of this trend are a relatively stable COGS% possibly increasing slightly over time but definitely above the expected level. This trend, just as the one previously, shows that whatever is causing it is happening consistently because the trend is constant. If we look at our list of possible causes, we find only four possible causes which would yield this trend.

**Cause 1—Insufficient Pricing.** If the pricing formula is applied incorrectly, the COGS% will be higher than expected. Another twist on insufficient pricing is that you may have applied the pricing formula correctly but over time the cost of the product increased without any adjustment of the price. Figure 6-12 illustrates this cause.

The Youth Services Center sells canned soda in support of the program.					
	Original Cost	Jan	Feb	Mar	Apr
Cost	\$.234	\$.239	\$.244	\$.259	\$.261
Sell	\$.40	\$.40	\$.40	\$.40	\$.40
COGS %	58.5%	59.8%	61.0%	64.8%	65.3%
NOTE: The simple solution may be to recost the menu to achieve the target COGS % of 59.0. A second option may be to switch the product offered from canned soda to post-mix and maintain the same sell price.					

**Figure 6-12: Insufficient pricing illustrated.**

The last cause of insufficient pricing would be that you did not include freight cost in the equation used to establish the sell price.

**Cause 2—Over Portioning.** If you establish the quantity of a product that will be served for a given price and a greater quantity of the product is actually served consistently, then the COGS% will be higher than expected. This problem is often associated with serving food when employees substitute a larger serving utensil or container for the correct one. The same thing can happen in other resale activities when the product count sold is incorrect. This concept is illustrated in Figure 6-13.

**The Stable sells feed at \$3.50 per bucket. Since the feed is handled on a self-service basis, customers were actually taking about 1.5 buckets for the \$3.50.**

	<u>Costing Data</u>	<u>Actual Expense Data</u>
Feed Cost	\$2.20 per bucket	\$3.30 per 1.5 buckets
Sell Price	\$3.50	\$3.50
COGS %	62.9%	94.3%

*Figure 6-13: Over-portioning illustrated.*

**Cause 3—Employee Theft of Money or Inventory.** If you have not established good internal control procedures, then opportunities to divert either cash or product may exist. In order to create the trend we are discussing, the theft by employees must be consistent which indicates the control systems have been beaten. The most common and simplest way for the employee to steal is to divert the cash before it is recorded on the cash register. Diversion of merchandise is most easily accomplished from unsecured storage areas as opposed to the customer resale area.

**Cause 4—Sales Recorded in the Wrong Department.** When several different department's incomes are recorded on the same cash register, the inexperienced or uncaring employee has the opportunity to record income to the wrong department. As an example, at the golf course green fees, cart rental, pro shop sales are all wrung on the same cash register. If the pro shop sales are wrung on the key for green fees, COGS% will be higher in the pro shop than expected.

Having identified the problems that could be causing the increasing or consistently high trend, the next question is obviously what are the solutions to reverse the trend. Just as with the decreasing trend, any or all of the causes listed above could be happening at the same time. For that reason you should carefully review all of the problems and apply the solutions systematically for those observed in your activity.

**Solution 1—Under Pricing.** Establish periodic recosting of all resale merchandise to ensure market changes have not increased prices to a level which requires a price change to maintain the required COGS%. Use the Cost of Goods Method of pricing illustrated at Figure 6-11 to cost the resale merchandise. Ensure that the freight charges associated with resale merchandise are being included when pricing items for resale.

**Solution 2—Over Portioning.** Review the portions being served by employees. Ensure that the correct portioning utensils and containers are the only ones available for employee use. Develop and display portion size lists in places where they are a ready reference for employees. In food sales areas use standard recipes for all



cooked items to ensure food cost is consistent. In all areas train and retrain employees on correct portions and proper serving utensils/containers.

**Solution 3—Employee Theft of Money or Inventory.** Review the entire cash and inventory control system. Ensure cash control procedures minimize the opportunity to divert cash before it is recorded. Require use of prenumbered cash control documents or a programmable cash register to create inventory accountability. Spot check cash register operations frequently. Conduct surprise cash counts at least weekly. Require and monitor a sales accountability/variance log for employees. An example of this log is shown at Figure 6-14.

Cashiers/Sales Accountability Log				Month: Mar			
Name: Mary Smith				Activity: Bowling Center			
Date	Activity	Reg Sales	Actual Sales	Over Short	Sales Acct	Over Short	Remarks
3/1	Pro	\$151.23	\$147.00	(\$4.23)	\$151.35	\$0.12	
3/3	Pro	\$295.35	\$290.10	(\$5.25)	\$295.30	(\$0.05)	
3/11	SB	\$305.10	\$295.10	(\$10.00)	\$305.00	(\$0.10)	
3/28	Pro	\$50.05	\$40.05	(\$10.00)	\$130.00	\$79.95	
3/30	Pro	\$103.00	\$99.00	(\$4.00)	\$22.00	(\$81.00)	See Above

*Figure 6-14: Sales accountability/variance log.*

When you review the data for Cashier Mary Smith there is some indication that she may be taking cash from the register (Note the cash shortage). In addition, something happened between the 28th and 30th of March based on the \$79.95 sales accountability overage one day and the \$80.00 shortage two days later. This variance was probably a bad sales accountability inventory but you should review this performance. A copy of this Sales/Accountability Log (Form 6-1) is provided at the end of the chapter for your convenience and use.

**Solution 4—Sales Recorded in the Wrong Department.** Review the entire sales documentation system. Ensure that a ready reference document is available for employees that tells them where to ring each item on the cash register. The most often used keys on the cash register should be separated as far apart as possible. Ensure Cashier's Report and Daily Activity Report clearly indicate the department where all income should be recorded. Ensure all new cashiers receive hands-on cash register training.

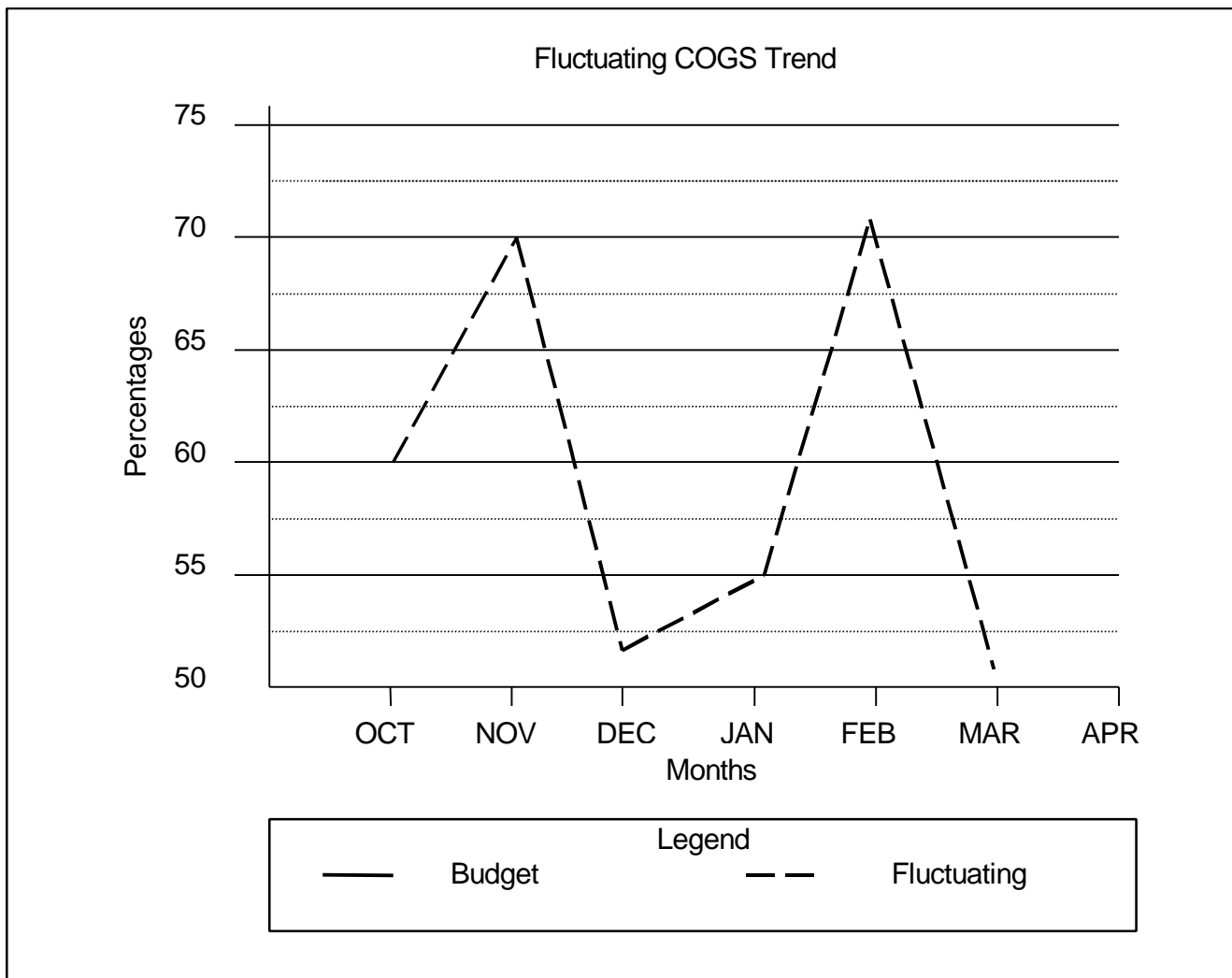
This concludes our review of the problem areas that will cause the increasing or consistently high COGS%. When this trend is identified, it takes systematic review of the problem area, dedicated application of the solutions, and constant follow-up to reverse the trend.

#### **TREND 4—FLUCTUATING COGS%**

The most difficult trend to analyze and correct is the fluctuating COGS% trend. The reason that this trend is so difficult to deal with is because of the potential number of causes. The causes range from a change in customer preference for product (Sales Mix), to many different types of administrative errors, to a variety of operational

problems. In this section we will explore the potential causes in that order: Sales Mix, Administrative Errors and Operational Problems.

As you know Fluctuating COGS% shows a pattern of increasing and decreasing trend over the standard as shown in Figure 6-15. The pattern of the trend, up one month and down the next, smacks of an isolated happening or mistake one month with a counter- balancing effect the following month. Typical of these types of problems are mistakes in inventory, receiving reports or transfer vouchers. Causes are not limited to administrative errors but are founded in operations as well. As an example, isolated waste, theft, or pricing can cause the same picture as the administrative errors. Let's take a careful look at all of the problems which can cause fluctuating cost of goods.



*Figure 6-15: Fluctuating COGS diagramed.*

### CHANGE IN SALES MIX

Sales mix is a phenomenon that exists when several items in the same resale activity have a diverse pricing strategy that causes significant differences in their individual COGS%. As an example, we might sell golf clubs in the pro shop with a 50% COGS while we sell golf balls at an 80% COGS. With the relative difference in gross

profit for the two items the quantity of each can have a significant impact on the total COGS% for the month. Figure 6-16 shows the impact of a similar pricing difference at a Recreation Center.

The Recreation Center sells two items (soda and candy) in support of the program. Please note the dramatic impact on COGS% when customer tastes change from month to month.

<u>Item</u>	<u>Sell Price</u>	<u>Cost Price</u>	<u>COGS%</u>
Candy	\$.45	\$.20	44.4%
Post-Mix Soda	\$.45	\$.12	26.7%

<u>March Analysis</u>						<u>April Analysis</u>					
<u>Item</u>	<u>#Sold Month</u>	<u>Unit Cost</u>	<u>Total Cost</u>	<u>Unit Sell</u>	<u>Total Sell</u>	<u>Item</u>	<u>#Sold Month</u>	<u>Unit Cost</u>	<u>Total Cost</u>	<u>Unit Sell</u>	<u>Total Sell</u>
Candy	200	.20	40.00	.45	90.00	Candy	400	.20	80.00	.45	180.00
Soda	400	.12	48.00	.45	180.00	Soda	200	.12	24.00	.45	90.00
Totals			\$88.00		\$270.00				\$104.00		\$270.00
Total COGS				32.6%		Total COGS				38.5%	

**Figure 6-1: The impact of sales mix on COGS%.**

In the example shown above, the COGS% increased nearly six percentage points because customers chose to purchase more high cost candy bars and less low cost soda. If next month they drink more soda and eat less candy bars the trend will shift back the other direction. The point of demonstrating this analysis is to point out that customer preference alone can cause fluctuating COGS%.

Introduction of the sales mix analysis at this point in our discussion of fluctuating COGS% is particularly germane. When the fluctuating COGS% trend is discovered, a Sales Mix Analysis should be the first step in the diagnosis of the true cause. In order to compute the analysis, the number of products sold and the cost and sell price for each resale item must be available. Using this data, you must calculate the expected sales (if all missing product was sold). This total is then compared to the actual sales on the income statement. If the expected and actual COGS% are the same or nearly the same, any shift in COGS% from the previous month is the result of a change in Sales Mix. On the other hand, if the actual COGS% is significantly higher than the expected COGS%, that indicates that an administrative or operational problem exists. At this point we know that the COGS% shift from a previous period or standard was not caused by a change in customer buying habits.

Wow! Complex stuff! No, not really. Let's regroup and look at a simple example from a bowling center. In a small pro shop the COGS% for the last three months has been 84.9%, 75.3% and 83.6%. The manager decided that a Fluctuating COGS% Trend was emerging. In an effort to prove that the trend was being caused by a Sales Mix change, the analysis at Figure 6-17 was prepared by the staff. As you can see, the expected COGS% is much lower than the actual COGS%. As shown above, this indicates administrative errors or internal control problems. The Manager definitely can't confirm a change in Sales Mix.

When should you prepare a Sales Mix? There is no hard and fast rule. AR 215-1 provides some guidance on the allowable fluctuation before a Sales Mix (Retail Sales Accountability) must be prepared. A good general rule

**A small pro shop sells the items shown below. The prices and usage figures for the month have been extracted from the sales tickets. With this data the sales mix can be prepared.**

<u>Item</u>	<u>Total Sold</u>	<u>Unit Cost</u>	<u>Total Cost</u>	<u>Unit Sell</u>	<u>Total Sell</u>
Bowling Ball A	17	42.50	722.50	60.00	1,020.00
Bowling Ball B	31	37.20	1,153.20	41.00	1,271.00
Bowling Bag	40	29.00	1,160.00	39.95	1,598.00
Bowling Shoe A	3	27.50	82.50	36.50	109.50
Bowling Shoe B	29	23.00	667.00	32.00	928.00
Expected Cost			\$3,785.20		
Expected Sell					\$4,926.50
Expected COGS%			76.8%		
Actual COGS%			83.6%		

NOTE: Management's premise is wrong! The shift is not being caused by customer buying patterns. If so the expected and actual COGS% would have been close together--not 6.8 percentage points off! Management now knows there are administrative or operational problems which need to be identified.

**Figure 6-17: Completing the sales mix.**

of thumb is a change of plus or minus three percentage points over the previous month or budget. In order to assist you in preparing a sales mix, we have provided a format (Form 6-2) at the end of the chapter.

Before we move on to other causes of Fluctuating COGS%, there is one more valuable use for the Sales Mix Analysis. It can be used to gauge whether current pricing will yield the planned COGS%. We already discussed earlier that the calculated (Expected) COGS% is the ideal world. This number assumes that every product used was sold and the money was collected and put in the register. In other words, this calculated result is the best possible COGS% that could be achieved based on the products the customer actually bought. If the expected COGS% is lower than the budgeted COGS%, then the pricing is not sufficient. If you find that symptom when you compute the Sales Mix, stop looking because you generally have two choices: change your COGS target or reprice the products.

If you attempt to use Sales Mix as a tool, you will find the basic number crunching very time consuming and tedious. A simple spread sheet program on the computer can accomplish all of the math for you and reduce the time preparing the analysis. Even with all of this help available, most of the managers in the field will never take the time to sit down and accomplish the real analysis. Most will skip right to identifying administrative or operational problems, or even worse, will assume it is a change in customer buying habits and not investigate anything. This concludes our brief look at the Sales Mix as a tool to assist management in analyzing fluctuating COGS.

## **OPERATIONAL PROBLEMS**

We defined operational problems as management or employees failing to follow prescribed procedures. This definition is provided to differentiate them from the type of problems that we have arbitrarily titled Administrative Errors. In this area, mistakes are made with pricing, extending, or posting paperwork.

**Cause 1—Incorrect Inventory.** The employees counting and checking the inventory have recorded the wrong count on items of merchandise. If the count is over in the first month, this will reduce the COGS. In a later

month, when the mistake is corrected, the COGS will rise to offset the earlier trend. The very nature of this problem is typical of the Fluctuating COGS% Trend.

**Cause 2—Receiving Report Not Submitted.** The receiving report is the document that records the cost of new products to the inventory account. When this document is not submitted, the cost of the product is not entered into Purchases (GLAC 401). At the end of the month the products left are counted on the inventory and extended properly. The cost of the products still in the storeroom is deducted from the cost of the merchandise available for sale. The result is that purchases are understated and COGS for the period is much lower than expected. When someone discovers the problem in a later month all of those understated costs are reversed and the COGS% goes spiraling in the other direction. Oh, by the way, the missing receiving report *will be missed* when the bill comes from the vendor and cannot be paid by NAF Financial Services without proof of receipt.

**Cause 3—Transfer Voucher Not Prepared.** This is a very common problem which is difficult to correct. In the heat of day to day operations, it is easy enough to be “loaner” or “loanee” of resale merchandise between departments, activities, or even funds. While the intention to return the merchandise is always good, it seldom happens. If you are the activity that received the goods without being charged for them, your COGS% is going down. If you are on the other end of the pipeline, your COGS% will go up. By the way, this also applies to moving merchandise from resale to some category of expense like supplies, promotions, or free issue. Figure 6-18 shows the impact of one typical, forgotten transaction in a small Arts and Crafts Program.

**Cause 4—Sales Not Properly Documented.** If the money collected for sales is diverted prior to being recorded or if it is recorded to the wrong department, then the cost of the goods will not be offset by income and the COGS% will be higher than expected. Once the problem is corrected COGS% will return to the expected rate. Merely failing to train a new employee on how to document sales correctly can have a dramatic effect as shown by Figure 6-19.

**Cause 5—Merchandise or Goods Diverted.** If resale merchandise is stolen by either employees or customers, there will be no sales income to offset the cost of goods and the COGS% will be higher than expected. When you tighten controls and curb theft, the COGS% will return to the expected level.

**A Small Arts and Crafts Activity is running a special stained glass program which charges a fee for lessons and materials to make a simple sun reflector. The fee charged for the program is \$20 per student, and there is an enrollment of 30 students. Management calculated that the average cost of materials was \$7 per student and intended to write a transfer voucher from the resale store to the program department. Look at the impact of one forgotten transfer voucher.**

Resale Operation					Program Operation				
	With <u>Trans</u>		Without <u>Trans</u>			With <u>Trans</u>		Without <u>Trans</u>	
Sales	\$1,310		\$1,310		Income	\$600		\$600	
COGS	\$1,048	80.0%	\$1,258	96.0%	Instr	360		360	
					<u>Supplies</u>	<u>210</u>		<u>0</u>	
Gross Inc	\$ 262	20.0%	\$ 52	4.0%		\$ 30	5.0%	\$240	40.0%

**Figure 6-18: The impact of a forgotten transfer.**

**In a small NCO Club a new employee rings up all of the tobacco sales on the beverage key of the cash register for the first two days of employment because no training was conducted. Look at the impact!**

Actual Recorded Sales with \$50  
Rung in the Wrong Department

Corrected Sales without the Mistake

	Tobacco		Beverage			Tobacco		Beverage	
Sales	\$	170	\$	960		\$220		\$910	
COGS		176	103.5%	273	28.4%	176	80.0%	273	30.0%
Gross Income		(6)	-3.5%	687		44		637	
From Opns									
Labor		0		364	37.9%	0		364	40.0%
Other Expense		0		91	9.5%	0		91	10.0%
Net Income		(\$6)	-3.5%	\$ 232	24.2%	\$ 44	20.0%	\$182	20.0%

**If the sales had been recorded correctly the COGS% would have shifted 23% and 2% in tobacco and beverage departments respectively.**

*Figure 6-19: Impact of incorrectly recording sales.*

**Cause 6—Under or Over Portioning of the Resale Product.** When employees do not serve the portion costed and planned then the COGS% will be either higher or lower than expected. When training is conducted and portion sizes are brought back into tolerance, the COGS% will return to the expected level. If this problem is not brought under control it will cause COGS% to change from month to month. Figure 6-20 shows the impact of portioning problems.

**An activity sells french fries for \$.50 per 4 oz. portion. Erroneously, the portion is changed to 6 ozs. Look at the impact of this mistake if french fries cost \$12.00 for a 30# case.**

Price Per Ounce		Portion Cost Comparison		
12.00 per Case			4 oz	6 oz
-----	= \$ .40/lb		Port	Port
30# Case		Price/oz	.025	.025
		Portion Size	4	6
.40 per Pound		Portion Cost	.10	.15
-----	= \$.025/oz			
16 ozs/lb		Sell Price	\$.50	\$.50
		COGS%	20.0%	30.0%

*Figure 6-20: Impact of portioning errors.*

Now that we have identified the operational problems that could be causing the fluctuating COGS%, the next question is, obviously, what are the solutions to correct the trend? Remember more than one of the causes can be operating during the same period. Therefore, you must investigate all of the causes systematically and apply corrective action where required. In reviewing all of the causes, you should also consider the administrative problems discussed after we review the solutions associated with the operational causes.

**Solution 1—Incorrect Inventory.** Establish organized and specific procedures to conduct end of month inventories using a detailed SOP. Procedures should specifically include requirements to conduct inventory counts from left to right and top to bottom to ensure no items are missed. All inventories should be listed prior to the count in inventory sequence. You must ensure that high dollar value and high volume items are recounted. Finally you should recheck at least 10% of the physical inventory.

**Solution 2—Receiving Report Not Submitted.** In order to properly control receiving, you should have a detailed SOP that prescribes the specific procedures that will be used. Designate only those people fully trained and familiar with the requirements outlined by the SOP as responsible to accomplish all receiving. Formulate a receiving checklist to assist even the trained employees. Limit receipt of merchandise to non-peak hours.

**Solution 3—Transfer Voucher Not Prepared.** Limit access to storeroom and warehouse areas to employees who are trained on how to issue merchandise to sales areas, other departments, expense accounts, and other activities. Require and spot check that transfer vouchers are prepared and signed at the time the resale goods are issued or moved. MWR activities that have resale merchandise should maintain daily sales accountability for at least high dollar value or sensitive items and require that sales accountability overages and shortages be investigated and resolved.

**Solution 4—Sales Not Properly Documented.** Review the entire sales documentation system. Ensure that a ready reference document is available for employees that designates where to ring each item on the cash register. Frequently used keys on the cash register should be separated as far apart as possible. Ensure Cashier's Report and Daily Activity Report clearly indicate the department where all income should be recorded. Ensure all new cashiers receive hands-on cash register training. Investigate cash overages and shortages to determine causes; retrain employees as required. Where cash control/inventory problems continue, use pre-numbered control forms as a cross check to cash register documented sales.

**Solution 5—Merchandise or Goods Diverted.** Secure merchandise not in the resale area. If access is limited, there is less chance for diversion by either employees or customers. Establish sales accountability inventories for items that continue to show overages or shortages. Ensure that the sales control point is located next to exits from the resale area to discourage shoplifting. Establish control procedures for sales to employees by either limiting purchase to a specific time or requiring supervisor authentication. Run frequent spot checks of inventory to stock record or bin cards. Focus on the items which show a history of pilferage and those with a high dollar value.

**Solution 6—Over/Under Portioning.** Spot check the portions being served by employees. Ensure that the correct portioning utensils and containers are the only ones available for employee use. Develop and display portion size lists in places where they are a ready reference for employees. In food sales areas, use standard recipes for all cooked items to ensure food cost is consistent. In all areas, train and retrain employees on correct portions and proper serving utensils/containers.

## **ADMINISTRATIVE ERRORS**

Administrative errors are those caused from a mistake in completing the paperwork as opposed to not initiating the paper work at all. This category of problems normally focuses on incorrect pricing, incorrect extension or misdating some type of paper work. There are generally three types of problems.

**Cause 1—Errors on the Inventory Paperwork.** Errors on the inventory documents will inflate or deflate the COGS% depending on whether the mistake over or under values the inventory. Since the ending inventory value

is the beginning inventory value for the next month, the error will skew the COGS% for at least two months. Several different types of mistakes can be found on inventories. While you should be familiar with, and on the lookout for, these mistakes, in each case the outcome is the same; an over- or understated inventory value.

The first mistake and probably the most common is recording the wrong cost price on the inventory. This mistake can be caused by several different factors. In some cases freight cost is omitted; in other cases, the case pack is not divided correctly into the case price to arrive at the unit cost; and in still other cases, prices are interchanged for similar products. These problems are most prevalent when the person pricing the inventory is not familiar with the product. As an example, many MWR activities allow the NAF Financial Services office to price inventories as suggested by the regulation. Pricing works much better when trained activity resale personnel or management do the pricing with NAF Financial Services checking the values.

The second type of mistake common with inventories is that the unit of inventory and the price per unit do not match. A common example of this mistake is golf balls. The pricing used is “each” while the count is “in sleeves” (3 balls). Sounds like a simple problem to solve, yet it is fairly common. One of the reasons that the problem exists is that most inventories are prelisted on the form by NAF Financial Services or someone in the office based on a previously provided list or last month’s inventory. When the actual count is taken, the resale employee uses the unit most familiar to them in the sales activity without carefully looking at the inventory sheet.

The third problem that exists is simple mathematical errors on extending count times price for the items on the page and then totaling the page. This mistake must just be chalked up to carelessness.

**Cause 2—Errors on Transfer Vouchers.** Even when they do get prepared, the same types of pricing errors attributed to inventories are present on transfer vouchers. The only difference is that they only skew the COGS% up or down for one month. During a recent review, we discovered that the manger had signed off on a transfer that “issued” 24 cases of canned soda to GLAC 654—Resale Merchandise Spoilage, Breakage, and Obsolescence. When questioned about the transfer by NAF Financial Services he assured them that there were indeed 24 cans of soda that were damaged. Just like the employees, the manager did not look carefully at the unit of issue.

**Cause 3—Errors on Receiving Reports.** Incorrect counts on receiving reports are sometimes problems but these are normally straightened out quickly when the invoice is received by NAF Financial Services and the two documents don’t match. The major problem that skews COGS% from month to month is dating and processing receipts that arrive near the end of the month. As an example, a shipment of resale merchandise arrives on the 30th of the month as the activity is preparing for inventory. Management ensures that the stock is put away and properly counted on the end of month inventory but in an effort to get the stock inventoried forgets to prepare the receiving report. On the 1st of the following month the manager realizes that the receiving report was not accomplished. When the manager completes the receiving report on the 1st it is dated that day and sent to NAF Financial Services. When NAF Financial Services receives the report, they process it against the wrong month, thus understating CAGS% in the first month with a correcting “spike” in COGS% in the next month.

This highlights the three causes of administrative errors most common in the MWR world. Generally, they can all be attributed to poor procedures and a lack of attention to detail. Since there is probably little chance of totally eliminating poor employee or manager performance, let’s look at several solutions that will minimize these types of nagging problems.

**Solution 1—Errors on the Inventory Paperwork.** Establish, to the maximum extent possible, two-person teams to conduct inventories. Insist that counter and recorder review quantity and unit of issue at the time of



inventory. Price and extend the inventory in the activity with NAF Financial Services spot checking the prices and extension. You should accomplish a line by line check of the inventory document prior to submitting it to NAF Financial Services. This spot check should identify glaring errors which distort the correct value of inventory.

**Solution 2—Errors on Transfer Vouchers.** All prices and units of issue and extension of the document should be rechecked prior to leaving the activity. If two signatures are required (one by issuing person and one by receiving person), then each should check the accuracy of the value assigned to the transfer voucher. Once again, the resale supervisor or manager should perform a spot check before the document is submitted to NAF Financial Services.

**Solution 3—Errors on receiving Reports.** Receiving reports must be completed and *dated* at the time the merchandise is received. Annotate receiving reports near the end of the month as *BEFORE* or *AFTER* inventory so that there is no chance for mis-posting in NAF Financial Services.

We have now reviewed causes and solutions for all of the different types of trends which can occur in COGS. As you can see, “fixing” a negative trend in COGS is the most complex problem we have thus far faced. Even with the laundry list of possible causes provided in this chapter, managers with large changes in COGS% will expend a great deal of effort identifying and correcting problems. The last logical question we must answer to close the loop on this chapter is how do I go about applying the solutions?

## **APPLYING SOLUTIONS TO “FIX” COST OF GOODS SOLD**

Unfortunately, there is no step by step order or format to apply solutions. Much of the order and what to try first will come with experience and practice. In some cases the trend will stabilize and you may never know exactly what caused it. Often focusing management and employee attention to the problem is the solution.

The best advice we can provide is to start with the simplest and easiest things first. As an example, if you have a fluctuating cost of goods sold it is relatively easy to ensure the accuracy of the inventory. All that’s required as corrective action is checking and rechecking. It is not as easy to ensure that all of the transfer vouchers are prepared or all of the income is recorded properly. In these cases it involves a longer time span to train employees, apply proper management follow up, and retrain as required. It might even be several months before you could assume those areas were substantially improved. Even then you could never be absolutely sure that every transaction was perfect because of the human element.

Here is the order we recommend to attack the causes for COGS problems. Our order is based upon the amount of effort and time required to be relatively sure the problem is fixed.

- 1. Review and Fix Administrative Problems.** Errors in pricing, extending, and dating inventories, transfers, and receiving reports can be identified from NAF Financial Services records and generally require only more attention to detail and review.
- 2. Sales Mix Problems.** Perhaps preparing the sales mix should be the first step but it is less time-consuming to review the administrative problems. We accomplish the Sales Mix next because if it reveals a shift in customer preference, then all of the other operational “fixes” are no longer required.
- 3. Inventory Problems.** Improving inventory procedures can be fixed rapidly and when combined with number 1 above, the value of the inventory will be verified.

4. **Pricing Problems.** Once again, pricing is on a par with inventory because it can be reviewed and fixed quickly and just requires periodic management attention.
5. **Receiving Problems.** This category goes next because establishing the procedures and training a few people you trust to do it right is relatively easy to accomplish. Providing the follow up is a little more difficult.
6. **Sales Documentation Problems.** This category falls in the same area as Receiving does above. The major reason it falls after receiving is that it requires more review, retraining, and follow-up.
7. **Portioning Problems.** Easy to review but difficult to train, retrain and gain consistency. Always one that slips through the crack!
8. **Transfer Problems.** Difficult to know all of the merchandise moved around. The major effort must be with employees to get them to realize that the movement of merchandise must be recorded. You will be extremely fortunate to get this one absolutely correct unless you lock everything up and keep the keys and issue yourself.
9. **Theft/Waste.** Here we must be constantly vigilant. We will never identify all of the problems in this area. The focus must be to minimize the opportunity.

Remember this is a general prioritization which may not work for the specific MWR activity you operate, but for those attacking the problem for the first time, it is a starting point.

## SUMMARY

In this chapter, we have defined COGS and COGS% and discussed how they are used to monitor trends. We have reviewed, discussed and diagramed the four different trends which COGS% can demonstrate over time. We identified problems which would cause each type of trend. Once the problems were identified, solutions were provided to assist management with implementing corrective action that will bring the negative trends back into tolerance.

We introduced the concept of Sales Mix as a tool for determining if pricing is sufficient, income is being diverted due to poor controls, or customers have simply chosen different buying patterns. We provided a sample format for compiling a Sales Mix (Form 6-1) and a similar format for instituting Cashier/Sales Accountability.

We have attempted to provide both new and experienced managers a framework upon which to begin the arduous process of dissecting and repairing an extremely complex expense that is a major cost element when operating many MWR programs. Even armed with these tools, managers should expect a significant time lag (at least several months and probably more like four) before consistent results are documented.

Given these tools, a better understanding of the COGS equation and a great deal of persistence you will be able to control or at least manage shifts in this variable cost. Stay with it! Good Luck!

## CHAPTER WRAP-UP

### KEY POINTS

- Cost of Goods Sold is defined as the cost associated with the purchase of merchandise which will be sold at retail. By definition, this cost includes any freight required to get the product to our location
- The formula for calculating COGS is beginning inventory plus all purchases and receipts, minus all issues to other activities/departments, minus vendor returns and minus ending inventory.
- Cost of Goods Sold trends are monitored using the Cost of Goods Sold Percentage which is calculated as shown below:

$$\text{COGS\%} = \frac{\text{COGS \$}}{\text{Net Sales \$}} \times 100$$

- There are four possible COGS% trends. They are
  1. Consistently High Percentage
  2. Consistently Low Percentage
  3. Consistent Percentage
  4. Fluctuating Percentage
- In order to comprehend how a specific problem causes or fails to cause the specific trends shown above, management must have a detailed understanding of the GLACs which are combined mathematically to calculate COGS.
- Because we monitor COGS using the COGS%, management will need to consider not only problems recording the costs associated with purchase of resale merchandise but also the problems associated with recording the offsetting sales of products.
- Of the four trends cited above, the only one considered positive is a consistent COGS% (as compared to the standard). This trend requires no corrective action.
- The causes of Consistently Low COGS% are
  1. Over Pricing
  2. Under Portioning
  3. Sales Recorded in the Wrong Department
- The causes of Consistently High COGS% are
  1. Insufficient Pricing
  2. Over Portioning
  3. Employee Theft of Money or Inventory

#### 4. Sales Recorded in the Wrong Department

- The causes for Fluctuating COGS% are divided into subcategories as shown below:
  - Change in Sales Mix
  - Operational Problems
    1. Incorrect Inventory
    2. Receiving Report Not Submitted
    3. Transfer Voucher Not Prepared
    4. Sales Not Properly Documented
    5. Merchandise or Goods Diverted
    6. Over/Under Portioning
  - Administrative Problems
    1. Errors on Inventory Paperwork
    2. Errors on Transfer Vouchers
    3. Errors on Receiving Reports
- Even with the potential causes defined, the process of identifying the existing problems and applying solutions is very time consuming and requires a major portion of management's focus. In addition, the time required to see the results of the efforts may be at least four months away. Management should not expect one month turn-arounds in this expense.

#### REVIEW QUESTIONS

1. Which of the four COGS % trends is not considered negative?
2. Freight costs should be included as part of COGS.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
3. Which of the following causes will not generate a fluctuating COGS percentage?
  - a. Sales not properly documented
  - b. Errors on inventory paperwork
  - c. Errors on transfer vouchers
  - d. High pricing
  - e. All of the above
  - f. None of the above

4. The two types of errors on inventory paperwork are \_\_\_\_\_, and \_\_\_\_\_.
5. When a fluctuating COGS% trend is present and diversion of merchandise or goods is suspected as one of the causes, list three specific solutions that will help correct the problem.
6. A Sales Mix can be used to determine if the present pricing structure will generate the required COGS%.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
7. If the results of a Sales Mix reveals that the expected COGS% is less than the actual COGS%, it indicates that customer preferences for merchandise have changed.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
8. Under portioning is a possible cause for a consistently high COGS% trend.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
9. Insufficient pricing is a possible cause for a consistently low COGS% trend.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
10. Analysis of COGS should start with data extracted from the program level income statement.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
11. The four possible trends for COGS are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
12. COGS is often monitored using the change in COGS dollars from month to month.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
13. If gross sales are \$14,561, employee discounts are \$1,561 and the COGS is \$6,500, calculate the COGS%.
14. If 30 bottles of glaze for the Arts and Crafts cost \$45.00 and there is freight cost of \$3.00, calculate the sell price if the desired COGS% is 70%.
15. If your budgeted COGS% is 60%, define the meaning of this percentage.



[illegible]

# Chapter 7

## Controlling Labor Costs

**Applied Financial Planning**



# **Chapter 7**

## **Controlling Labor Costs**

Labor is the second expense reported in the summary income statement format (at line 4). The total dollars reported on this line of the income statement represent all of the costs for having employees including basic wages, leave accruals, the employer portion of FICA, and retirement as well as health and life insurance.

In this chapter, we will define the components of Labor Cost, discuss how the Total Labor Cost is calculated and monitored, identify negative trends and determine causes for those negative trends. We will describe and illustrate several interim analyses which will be of use to management in controlling labor cost.

The major challenge that will face management when controlling labor cost is maintaining the balance between minimizing labor cost for the most efficient operation and still having a sufficient number of employee work hours to provide the level of service expected by customers.

One of the difficult pitfalls which management must carefully avoid is to “manage” labor until it is no longer needed. Often when an activity is losing money, there is a strong tendency to cut labor cost because it is relatively easy to do. The net impact of these cuts is that the activity provides less service and the total revenue is down even more. More cuts? More lost revenue! We find ourselves in that vicious inward spiral until there are no customers left and we must shut the door.

Remember this simple analysis as we discuss controlling labor cost and mentally rephrase controlling labor cost, to controlling excess or unnecessary labor cost. In your operation, make all of the comparisons and analyses described in this chapter. Decide whose hours need to be cut, when overtime should be trimmed, or what positions need to be eliminated; but when all of the study is over, take one last look to determine what less hours or less employees will mean to your ability to meeting customers’ service expectations.

### **DEFINING LABOR COST**

Labor Cost can be defined as the total expense for services rendered by employees to complete the particular mission of the program or activity for which they work. This expense is comprised of all of the direct costs for wages as well as the indirect payroll costs caused by the employer’s contributions to FICA, health and life insurance, workman’s compensation, and retirement. Also included in this total are performance bonus and other monetary awards related to employee performance.

### **CALCULATING LABOR COSTS**

Labor cost is derived directly from input provided by the manager at the lowest operating level of the MWR activity—the Department. In general, the employee is hired to work in a program, location, and department, and all of the hours the employee works are charged against that particular work center. The hours worked are input into TLMS (Time Labor Management System) or, in some cases, annotated on the time card using specific codes for night shift, holidays, Sundays, and overtime according to the rules prescribed in the NAF payroll system.

Once the time card is completed for the period, it is submitted to a regional payroll center that calculates the pay due the employee and the employer’s and employees’ cost for all of the “fringe “ benefits authorized. This costing process is completed at the end of each two week period. The actual cost of payroll and benefits are

available to management approximately one week after the close of the pay period. Meanwhile, the Labor Cost Reports in TOLMS can provide a detailed breakdown of all labor costs by department and employee for the period requested. The payroll information is provided to the local or regional NAF Financial Services office on DA Form 5314 (See Figure 7-1). A second duplicate copy of this report should be available to management.

GLACs Used to Record U.S. Labor Costs		
+ 601	Salaries and Wages	\$1,200
+ 603	Annual Leave	61
+ 605	Sick Leave	0*
+ 607	Worker's Compensation Insurance	15
+ 609	Retroactive Wage Increases	0*
+ 611	Employers Share FICA	87
+ 612	Employers Share of Employee Group Health & Life Insurance Plans	33
+ 613	Employers Share of Employee Retirement Plans	15
+ 617	US Employee Bonuses and Cash Awards	0*
+ 620	US Employee Unemployment Expense	7
+ 621	US Employee Compensatory Time Expense	0*
+ 623	Home Leave Expense	0*
+ 624	Other Benefits - US Employees	0*
TOTAL LABOR COST		\$1,418
* Asterisked items are used only when the expense is recorded. Other benefit items are calculated as a percent of wages and salaries.		

**Figure 7-2: Calculating total labor cost.**

As you can see by looking at the form, it provides individual employee data as well as totals for the work center. The NAF Financial Services uses these work center totals to post the various GLACs that are used to record payroll cost on the income statement. **The major problem with recording labor costs from the payroll documents to the income statement is that the periods for the data do not match.** The payroll data is provided in two week cycles but the income statement coincides with the calendar month that varies in length. As a result of this mismatch, several days at the beginning and end of each month are estimated costs as opposed to actual labor costs. We will return later to the impact of accrued labor cost on the income statement.

There are currently 25 GLACs used to record the various payroll costs associated with both U.S. and Local National personnel costs. Once these GLACs are posted, they are added together to generate Total Labor Cost. Figure 7-2 illustrates the accounts that would commonly be used for U.S. employees.

If the time cards are completed correctly and the estimates used to accrue the difference between the end of the last pay period in the month and the end of the calendar month are accurate, calculating payroll is a relatively simple task with few places for administrative error.

Many people who view all of the different GLACs used to record labor costs ask why don't we just use two lines, salaries and benefits, to simplify the income statement process. Use of the additional lines can be extremely helpful to management if they understand exactly what is recorded in each account and track individual GLACs over time. As an example, GLAC 605—Sick Leave will provide you a ready reference of how many and how often employees are using sick leave. A quick review of the insurance, retirement and annual leave GLACs, over time, may give you an indication of whether the mix of your workforce between flex and full- or part-time employees is changing. To assist management, we have explained the GLACs commonly used to record U.S. payroll costs. In general, the definitions would apply to the similar account for Local Nationals.

*Account 601—Salaries and Wages.* This GLAC records all salaries paid to include night differential, Sunday differential, and overtime.

*Account 603—Annual Leave.* This GLAC accrues the money on a biweekly basis which will be used to pay for vacations when the employee chooses to go.

ORGANIZATION										OTHER EARNING CODES					OTHER DEDUCTION CODES										PAY PERIOD (MONTH)				PAGE NO.
CYCLE R CENTRAL NAF PAYROLL OFFICE										1. HOL WKD	5.	9. OTHER OR COMBINATION	1. SUPPL INS	5. DEL TAX	9. OTHER OR COMBINATION				XX	XX	XX	XXXX							
NAF INSTALLATION - XX WORK CENTER - XXXXX										2. LSL	6.	10. SVC CHARGE	2. MEALS	6. LSL REPLY															
										3.	7. COLA	11. TIPS	3. QUARTERS	7. MAN PAY REIMB															
										4. CASH AWARD	8.		4. CASH TIPS	8. AL/SL REPLY															
SOCIAL SECURITY NUMBER		1234	5678	9012	3456	7890	1234	5678	9012	BASE HOURS	O.T. HOURS	N.D. HOURS	OTHER HOURS	HAZ PAY	NON-TAX INCOME	FICA DED	STATE TAX 1	HMO PLAN	GLI DED	BOND PURC.	C D	OTHER DED	ALMT DED	GLI CONTRB	FICA CONTRB	NET PAY			
		1234	5678	9012	3456	7890	1234	5678	9012	RATE	O.T. PAY	N.D. PAY	C D	OTHER PAY	GROSS PAY	FED TAX	RET DED	STATE TAX 2	HMO DED	ORGN DUES	BOND DED	C D	OTHER DED	CHARITY CONTRB	HMO CONTRB	RET CONTRB	CHECK NUMBER		
NAME						BASE PAY	SUN PREM HOURS	SUN PREM PAY	C D	OTHER PAY	GROSS SUBJ FICA	LQA	TLA	LOCAL TAX 1	SPA	PA/ SMA	BOND BAL	C D	OTHER DED	LOCAL TAX 2		EIC ADVANCE							
LAST NAME, FIRST NAME MI						67'00					GRS PAY		MEDIC DED						401K DED	TSP AUTO	401K CONTR	MEDIC CONTR							
SOC SEC NO., NF02001 13						6'90					462'30	30'87	28'66	10'34		1'50					1'50	28'66	365'74						
W 040 51 00						462'30					462'30								18'49		13'87	6'70	05234015						
LAST NAME, FIRST NAME MI						44'00							6'70																
SOC SEC NO., NA01025 13						4'43					203'67	16'01	12'63	2'30	JH07	32'67							12'63	137'11					
W 040 51 00						203'67					203'67														05234016				
LAST NAME, FIRST NAME MI						67'00							2'95																
SOC SEC NO., NA01015 13						4'25			S	2'34	298'53	30'23	18'51	5'88												239'58			
I 000 45 00						296'19					298'53															05234017			
LAST NAME, FIRST NAME MI						80'00	1'75						4'33																
SOC SEC NO., NF03001 13						10'12	26'57				836'17	92'30	51'84	32'10	JH05	47'96		9'70						4'30	51'84	539'98			
R 080 11 00						809'60					836'17		16'72											47'96	16'72	ORGN	1'67		
LAST NAME, FIRST NAME MI						80'00							12'12																
SOC SEC NO., NA05051 13						6'89					551'20	46'90	34'17	16'17	JH08	61'08											371'79		
R 080 11 00						551'20					551'20		11'02											2'00	61'08	11'08	05234018		
LAST NAME, FIRST NAME MI						66'75							7'99																
SOC SEC NO., NA01055 13						4'96			S	2'34	342'02	23'19	21'21	8'06													284'60		
W 040 51 00						339'68					342'02																05234019		
LAST NAME, FIRST NAME MI						48'75							4'96																
SOC SEC NO., NA01021 13						4'43					215'96	17'85	13'39	2'67													178'92		
I 000 45 00						215'96					215'96																05234020		
LAST NAME, FIRST NAME MI						80'00							3'13																
SOC SEC NO., NF04001 13						14'41					1152'80	84'45	71'47	37'08	JH08	61'08		12'10							6'10	71'47	754'14		
R 080 11 00						1152'80					1152'80		23'06											2'00	61'08	23'06	ORGN	4'46	
LAST NAME, FIRST NAME MI						51'75							16'72																
SOC SEC NO., NF01001 13						6'32					327'06		20'28	4'58			1'40										104'04		
R 040 51 00						327'06					327'06		6'54						9				61'00	100'00	1'40	20'28	ORGN	0'87	
											327'06		4'74																
NO OF EMPL		O.T. HOURS		LSL HOURS		O.T. PAY		LSL PAY		HAZ PAY		NON TAX INCOME		FICA DED		STATE TAX		GLI DED		OTHER DED		ALMT DED		GLI CONTR		FICA CONTR			
9		1 75		00		26 57		00		00		00		272 16		119 18		24 70		206 72		100 00		13 30		63 64			
BASE HOURS		HOL HOURS		BASE PAY		HOLIDAY PAY		OTHER PAY		GROSS PAY		FED TAX		RET DED		LOCAL TAX		ORGN DUES		SPA		CHARITY CONTR		HMO CONTR		EIC ADV			
585 25		00		4358 46		00		4 68		4389 71		353 28		57 34		00		00				4 00		202 79		00			
N.D. HOURS		SUN PREM HOURS		N.D. PAY		SUN PREM PAY		OTHER PAY		GROSS SUBJ FICA				BOND DED		HMO DED				PA/SMA		401 CONT		RET CONTR		NET PAY			
00		00		00		00				4389 71				00		202 79						83 35		57 34		2985 90			

*Account 605—Sick Leave.* This account is used to record the cost of sick leave hours when they are taken. There is no accrual account for sick leave.

*Account 607—Worker's Compensation Insurance.* This GLAC records the cost of Worker's Compensation Insurance. This insurance covers the employee in the event of an accident on the job. This expense is recorded based on a percentage of the wages of all employees.

*Account 609—Retroactive Wage Increases.* This GLAC records the amount of backdated wages paid. This account can also be used to prorate the cost of wage increases over several months.

*Account 611—Employer's Share FICA.* This GLAC records the NAFI's share of FICA taxes, which matches the amount deducted from the employees' wages. This expense is based on a percentage of all wages for all categories of employees.

*Account 612—Employer's Share of Group Health and Life Insurance Plans.* This GLAC records the NAFI's portion of Group Health and Life Insurance. The amount of the expense depends on the individual elections of the part and full time employees who have chosen to enroll in the program.

*Account 613—Employer's Share of Employee Retirement Plans.* This GLAC records the NAFI's share of group annuity retirement plan. The amount of the expense depends on the individual elections of the part and full time employees enrolled in the program.

*Account 617—US Employee Bonuses and Cash Awards.* This GLAC records the cost of employee awards and bonuses.

*Account 620—US Employee Compensatory Time Expense.* This GLAC is used to record costs associated with compensatory time when that time is not used within the specified 180 days. If the compensatory time is on the books for more than 180 days then the regional payroll center pays the employee for those hours worked and approved by management.

*Account 624—Other Benefits.* This GLAC is used to record costs for US employees that do not fall into one of the other GLACs. An example might be payments for quarters allowance.

As you review each of the different GLACS cited above, make sure you understand whether the expense is based on a straight dollar cost decided by management (awards and bonuses), a percent of total wages and salaries (FICA and Worker's Compensation), or on the elections of the individual employee (retirement, life and health insurance). Look at, and be sure you understand, which employees or categories of employees are causing those costs to appear on the income statement. Review these accounts to track use of sick leave, annual leave, and amount of awards and bonuses paid. These individual GLACs can provide additional information that may help manage labor cost.

## **ESTIMATING LABOR COST**

Let's return a minute to something we talked about briefly above, the matching of payroll cost with a two week payroll cycle to monthly cost reported on the income statement. This concept may be easier to understand if we create a hypothetical example. We will assume that in March of 19X3 the first pay period begins on the first of the month and ends on the 14th of the month. The second pay period for the month begins on the 15th and ends on the 28th. Since there is a one week delay getting the actual payroll data from the regional payroll office, the dollar amount of payroll for the first period will be received at NAF Financial Services about the 21st of March

and the same data for the second period will arrive about the 5th of April. Finally, the exact data for the last three days of March would not be received until the 19th of April as part of the payroll data for the period ending the 12th of April.

<b>Calculating Estimated Labor Accrual</b>	
The normal method used by the CAO to estimate the labor cost for the day at the end of the month is shown below.	
Previous Pay Period Payroll	\$22,346.87
Number of Day in Pay Period	14
Average Cost per Day	\$ 1,596.21
Day Estimate Required For	6
Total Estimated Cost	\$ 9,577.26

*Figure 7-3: Estimating labor cost accrual.*

Depending on how rapidly NAF Financial Services closes out the month and prepares the income statement, they may have to estimate 10 days (maximum) or 3 days (minimum) of payroll cost. The major question is how accurate is the estimate? The procedure normally used to make the estimate is shown at Figure 7-3. If the activity for which the estimate is calculated has equal staffing over the entire pay period, then the estimate for three days will be fairly accurate. On the other hand, if the activity has heavy staffing on weekends and two of the three days are weekends, this method will understate the labor cost considerably in the first month. The resulting adjustment will raise the labor cost in the next month. The bottom line is that if the estimate is done poorly, it can be a contributing cause for fluctuating labor costs.

## HOW TO MONITOR LABOR COST

Labor cost is monitored using both absolute dollar comparisons and comparisons between labor cost percentages. No matter which of the methods of monitoring we use, the comparison is against a standard. The primary standard which we compare against is the planned or budgeted cost. In addition to that standard, labor costs are often compared month to month or to the same month last year. These secondary comparisons are used when management is attempting to improve performance over a previous period or if there is a seasonal trend involved.

<b>An MWR activity decides to open a food operation to serve dinner from 1800–2200 hours. This decision creates a Fixed Labor Cost required to open the doors.</b>				
<u>Position</u>	<u>Schedule</u>	<u>Total Hours</u>	<u>Rate</u>	<u>Cost</u>
Cook NA8/1	1700 - 2300	6	\$7.37	\$ 44.22
Waitress NA3/1	1730 - 2300	5.5	\$4.23	23.27
TOTAL FIXED LABOR COST				\$ 67.48
Note: The cost above is required regardless of income or customers. They are the basic Labor Costs to open the door. As business increases to 25 or more covers then a second waitress is required.				
Waitress NA3/1	1730 - 2300	5.5	\$4.23	\$ 23.27
Fixed Cost		\$67.48		
Variable Cost		\$23.26		
Total Labor		\$90.74		

*Figure 7-4: What is the difference between the fixed and variable portions of labor cost?*

The absolute dollar comparison is the less used method of monitoring labor cost but has some application because labor cost is not totally a variable cost. Most, if not all, MWR activities have elements of their labor cost that are fixed and other elements which are variable. In other words, the elements of labor cost that are fixed are minimum costs established once we decide to open the front door. The variable part of the expense can be directly related to the number of patrons using the activity or the amount of income. Figure 7-4 illustrates both the fixed and variable nature of Labor Cost in a small food operation. The point of understanding both the fixed and variable parts of labor cost is that it is smart for management to cut the variable part of labor cost in response to the business or use of the activity. On the other hand, the fixed portion of labor cost cannot be cut in response to shifts in use without modifying the basic operation of the program. In our example above, if customer use falls below 25 covers then management might well reduce staffing by one waitress. Both the cook and the other waitress must stay if we continue to operate the program as it operates now. If the cost of labor needs to be reduced further, then management options are to operate as a cafeteria with no waitress or shorten hours of operation to reduce scheduling of the existing cook and waitress.

When using absolute dollar comparisons to look at labor, great care must be taken when judging the type of trend you are seeing. By the very nature of looking at absolute dollars, you are saying that over the operating range you are reviewing, labor should be a fixed cost. Or in other words, for the present range of use, labor costs do not need to be adjusted when revenue goes up or down. Based on this assumption, an increase in labor dollars is a negative trend and a decrease in labor dollars is a positive trend.

This concept of managing labor cost as a fixed expense will work over specific ranges of use (of various sizes) depending on the type of program or portion of the program being reviewed. In these cases, the program is often operating at minimum staffing and can operate with that staff over a wide fluctuation in use. As an example, most small resale activities are staffed with one or two people, which is minimum staff, and staffing will not be increased until business increases enough to require additional staff. In this case, management should monitor Labor Cost using absolute dollars.

The second method of monitoring labor cost is the labor cost percentage method. When using this method, management is assuming that over the range of comparison, Labor Cost is a variable expense and can be adjusted to compensate for the amount of customer use or revenue collected. The Labor Cost Percentage is calculated as shown at Figure 7-5.

$\text{Labor \%} = \frac{\text{Total Labor \$}}{\text{Total Revenue \$}} \times 100$
--

**Figure 7-5: Calculating the labor cost percentage.**

Just as with the absolute dollar method, the calculated percentage must be compared to a standard. The primary standard used is the budget, but we also make comparisons with previous months and the same month last year. Figure 7-6 illustrates a month to month comparison of labor cost for two different operations. Which of these activities would you rather manage?

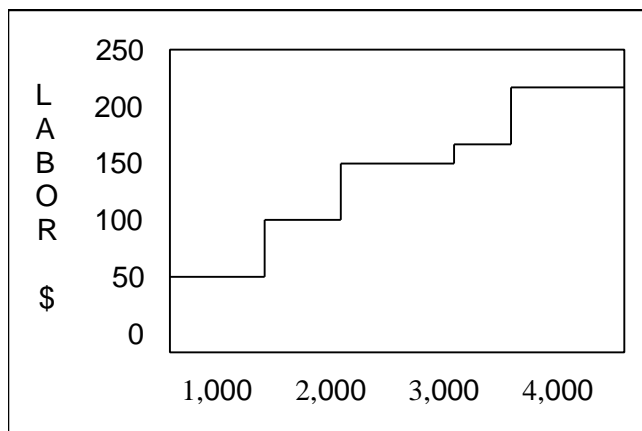
In our illustration above, it is not difficult to monitor the trend and it's doubtful that many of us would like to tackle Operation B without a lot more information about what is happening to cause the downward trend in Total Revenue. This illustrates the labor percentage analysis in a bit more detail. Before moving on. Consider for a minute Operation B as if you were the manager and it was a real MWR activity at Fort X. If the reduced revenue is being caused by some uncontrollable factor, like a deployment of troops or installation draw down, you have done a pretty good job trying to keep labor cost in line with revenue. Over six months you are gradually losing the war; why? In this analysis we are treating labor cost as an absolute variable cost when in fact there are some

Labor Cost Analysis								
	Jan	Feb	Mar	Apr	May	Jun	Jul	YTD
Operation A								
Revenue	\$5,000	\$5,500	\$5,500	\$6,000	\$6,000	\$6,500	\$7,000	\$55,000
Labor \$	2,200	2,300	2,300	2,500	2,500	2,700	2,900	23,000
Labor %	44.0	41.8	41.8	41.7	41.7	41.5	41.4	41.8
Operation B								
Revenue	\$7,000	\$6,500	\$6,000	\$6,000	\$5,500	\$5,500	\$5,000	\$55,000
Labor \$	2,900	2,700	2,500	2,500	2,300	2,300	2,200	23,000
Labor %	41.4	41.5	41.7	41.7	41.8	41.8	44.0	41.8

**Figure 7-6: Monitoring labor cost month to month.**

fixed elements within that cost. If nothing else, your NAF management salary is a fixed cost. What you're seeing in this gradual increase in percentage is the impact of that fixed cost on the labor percentage as revenues continue to decrease. Hopefully, this clarifies the impact of that fixed element of labor cost.

Figure 7-6 also illustrates graphically the trends we monitor using the Labor Cost %. An increasing percentage trend, as shown by Operation B, is considered negative. Conversely a decreasing Labor Cost % trend, as shown by Operation A, is considered positive. One word of caution before we move on to finalize the discussion of monitoring Labor Cost. While a decreasing trend is positive from the perspective of fiscal management of the operation, a large decrease in labor cost may be negative to customers and impact revenue in the ensuing months of operation. Consider carefully the impact of drastic cuts in labor to meet net income targets. Slow controlled reduction of costs may be more expedient in the long run.



**Figure 7-7: Labor is a semi-fixed cost.**

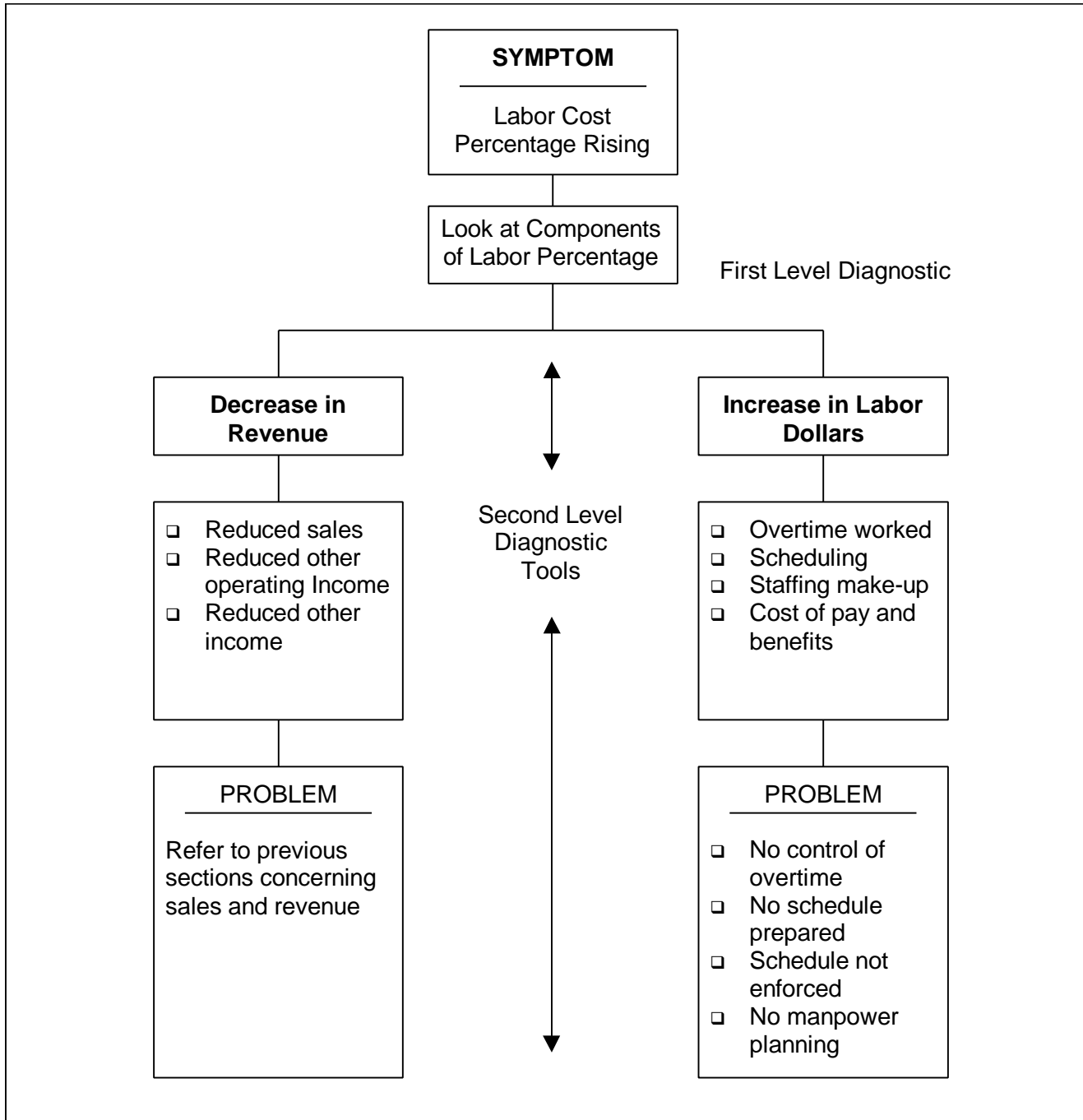
We have discussed, at length, and maybe too much length, how to monitor labor as both a fixed and variable cost. And, in fact, that is how we must monitor Labor Cost; but by now you have probably realized that labor is neither a fixed or variable cost. It is actually a semi-fixed cost whereby the program or activity can operate through a specific range of use with established staffing patterns and then must increase personnel to staff for the next range of use. Figure 7-7 illustrates the nature of Labor Cost. **Note that the steps are not even and they would be different based on the specific program or activity you were analyzing.**

There is one last point to consider when monitoring labor cost. Start the monitoring process at the department level. By starting at the lowest level we eliminate contamination of the trend data by another department which may have the exact opposite trend.

## HOW TO FIND THE REAL PROBLEM

Once again, we often treat the symptoms and not the real cause. If the Labor Cost Percentage shows a negative trend, we must look at the elements that comprise it. Which elements, within the Labor Cost Percentage Formula, caused the Labor % to increase? Was Total Revenue less than expected, was Labor Cost higher than





**Figure 7-8: Causes of rising labor cost percentage.**

expected or did they both show negative trends that impacted the Labor Cost %? This simple analysis is the first step in arriving at the true cause of increasing Labor Cost.

The second step in this process must be to relate negative Total Revenue and Labor Cost trends back to the day to day operational causes. Figure 7-8 illustrates relating the negative trend back to the operational causes and will serve as our road map for the remainder of the chapter.



A decrease in Total Revenue would be further analyzed to determine which of its components—Sales, Other Operating Income, and Other Income—are causing the negative trend. Since we've already spent several chapters on how to analyze and determine the causes of negative trends in this area, we will refer back to chapters 2 through 5.

In the case of increasing Labor Cost dollars we must begin by looking at what, operationally, would allow this trend to emerge. Several specific potential causes are listed below:

- Scheduling Problems
- Staffing is Not Correct (Positions vs Budget)
- Increasing Wages and Benefits
- Use of Overtime

For the remainder of the chapter, we will look at the problems associated with each of these areas as well as required management action to control or regulate them.

## **SCHEDULING PROBLEMS**

When Labor Costs are higher than expected, management often attacks the wrong areas first. In many cases, there are gigantic efforts to curb all overtime and to convert employees from full and part time to intermittent, to avoid paying benefits. While these are certainly valid methods to reduce Labor Costs and will be discussed later, they are not normally the major cause of large increases. The primary problem area, when large increases are noted, revolves around scheduling and enforcing the hours worked. In this section, we will look at some of the typical problems that exist.

**Cause 1—No Schedule Prepared.** All too often, activities with major labor cost problems do not even have a labor schedule. When asked, the manager's comment is that everyone works a standard week, and flex employees are only called in when needed. Without a written schedule, management is not aware of the number of hours needed to staff the activity for the operating week, and the employee is really deciding when to come to work and when to leave. Schedules are easily input in the TLMS Tours Menu.

Senior management must ensure that work schedules are prepared for all categories of employees. Existence of a schedule provides a standard with which to compare. At the end of the pay period, management can determine who worked extra hours and if those hours were really needed to support operations. The TLMS Schedule versus Worked Report quickly identifies discrepancies between hours actually worked and hours scheduled. A form similar to the one shown at Figure 7-9 should be used.

**Cause 2—First Line Supervisors Are Not Preparing the Schedule.** Review of scheduling procedures may reveal that clerical staff in the administrative office are preparing the work schedule for the operation. In other cases, the activity or program manager is preparing the schedule even though there are one or two levels of subordinate supervision in the activity.

Scheduling should be accomplished by the first line supervisor responsible for the day to day operations. That person is the one most knowledgeable about staffing requirements, peaks in business, and other operational requirements that need to be reflected in the scheduling. Activity and program managers should be preparing schedules only in the absence of subordinate supervisors. Once the schedule is complete, the Cost of Schedule Report should be printed from TLMS to accurately reflect the cost.

WEEKLY LABOR SCHEDULE							Activity: Bowling Center PAGE 1 of 2		
For use of this form, see AR 215-1; proponent agency is DCSPER									
Item	Action	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Total
Position: Manager	In	0930	0930	1030			0930	0930	XXXXXX
Grade/Step:	Out	1800	1800	1900			1800	1800	XXXXXX
Level: NF- 03 CD:4	Total reg hrs	8.00	8.00	7.00			8.00	8.00	39.00
Category: RFT	Rate ph								XXXXXX
Name:	NDif/O/T hrs			1.00					1.00
Bob Smith	NDif/O/T rate								XXXXXX
	Total \$								
Position: Mechanic	In	1100	1100			1100	1100	1100	XXXXXX
Grade/Step: NA08/01	Out	1930	1930			1930	1930	1930	XXXXXX
Level: CD: 2	Total reg hrs								0.00
Category: RFT	Rate ph								XXXXXX
Name:	NDif/O/T hrs	8.00	8.00			8.00	8.00	8.00	40.00
Terry Lones	NDif/O/T rate								XXXXXX
	Total \$								
Position: Asst Mgr	In	1700	1700	1800	1200	1200	OFF	1700	XXXXXX
Grade/Step:	Out	2300	2300	2400	1730	2030		2300	XXXXXX
Level: NF- 02 CD: 3	Total reg hrs	1.00	1.00			6.00		1.00	9.00
Category: RPT	Rate ph								XXXXXX
Name:	NDif/O/T hrs	4.50	4.50	5.50	5.00	2.00		4.50	26.00
Martha Stevens	NDif/O/T rate								XXXXXX
	Total \$								
Position: Rec Aide	In			1100	1100	1100	1100	1100	XXXXXX
Grade/Step:	Out			1930	1930	1930	1930	1930	XXXXXX
Level: NF- 01 CD: 3	Total reg hrs			6.50	6.50	6.50	6.50	6.50	32.50
Category: RFT	Rate ph								XXXXXX
Name:	NDif/O/T hrs			1.50	1.50	1.50	1.50	1.50	7.50
Bill Albert	NDif/O/T rate								XXXXXX
	Total \$								
Position: Rec Aide	In	1100	1100	1900	1900	1900	1900		XXXXXX
Grade/Step:	Out	1930	1930	2300	2400	2300	2300		XXXXXX
Level: NF- 01 CD: 1	Total reg hrs	6.50	6.50						13.00
Category: FLX	Rate ph								XXXXXX
Name:	NDif/O/T hrs	1.50	1.50	4.00	4.50	4.00	4.00		19.50
Katy Enoch	NDif/O/T rate								XXXXXX
	Total \$								
Total Hours		29.50	29.50	25.50	17.50	28.00	28.00	29.50	187.50
Total \$									

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**Figure 7-9: Preparing a labor schedule is a first step to controlling labor.**

Often senior management prepares schedules because first line supervisors “couldn’t do it right.” Rather than doing the work for supervisors, management should sit down with the supervisor and discuss allocation of work hours to the particular department or activity, isolate peak periods when additional staffing is needed, determine requirements for setup, cleanup, and overlapping shifts. Once this basic policy is developed and agreed upon, the manager must require the first line supervisor to prepare the actual schedule.

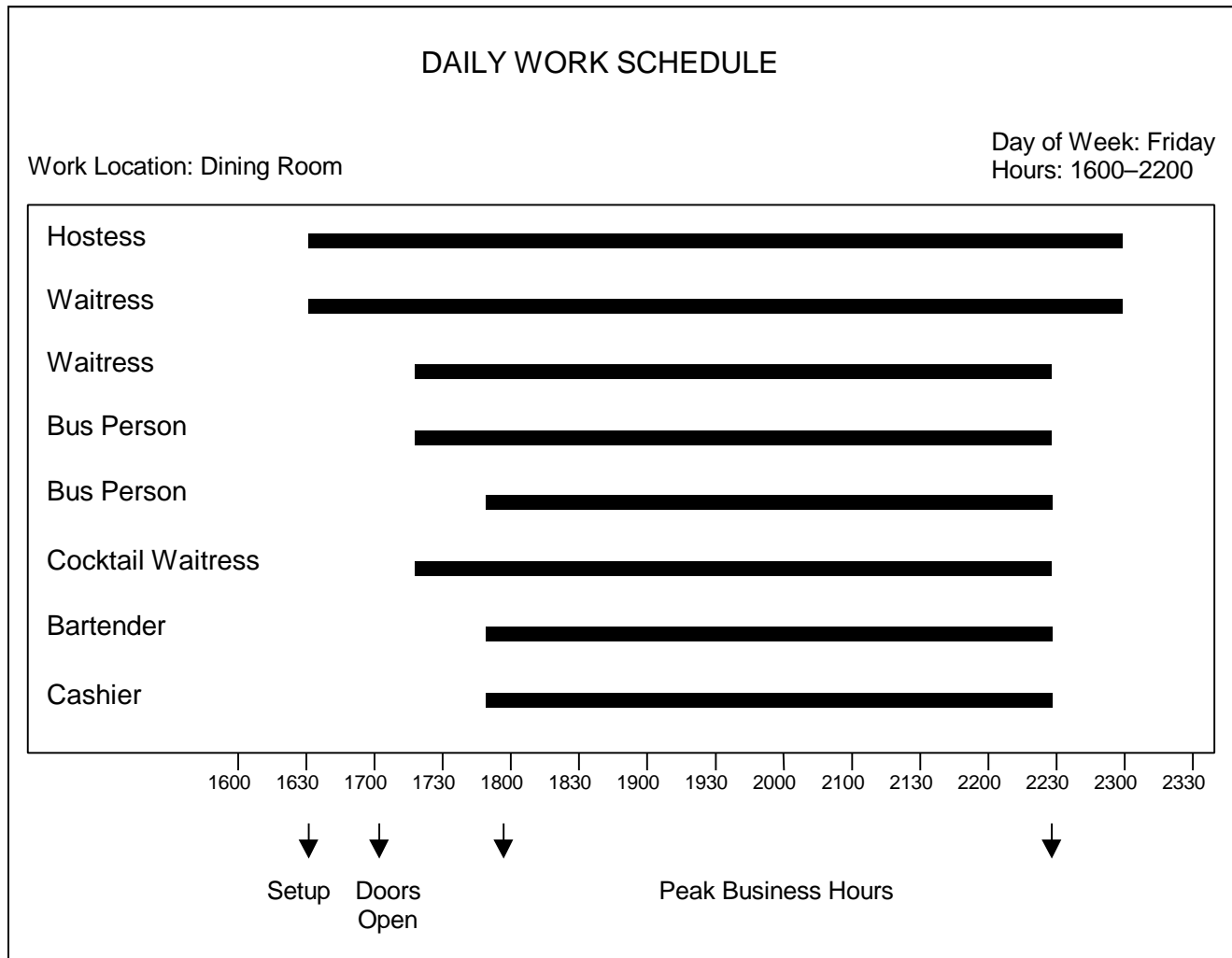
Once the schedule is prepared by the first line supervisor, it should be approved by the manager. Establishing this process places the activity or program manager in the oversight role and involves the first line supervisor in the planning of manpower requirements and then ensuring the hours allocated are not exceeded.

WEEKLY LABOR SCHEDULE							Activity: Dining Room		
For use of this form, see AR 215-1: proponent agency is DCSPER									
Item	Action	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Total
Position: Waitress Grade/Step: NA 3/1 Level: CD:2 Category: RPT Name:	In Out Total reg hrs Rate ph NDif/O/T hrs NDif/O/T rate Total \$	0930	0930	?	OFF	OFF	0930	0930	XXXXXX XXXXXX XXXXXX XXXXXX
Position: Waitress Grade/Step: NA 3/1 Level: CD: 2 Category: RPT Name:	In Out Total reg hrs Rate ph NDif/O/T hrs NDif/O/T rate Total \$	1100	1100	1700	1530	?	1600	1630	XXXXXX XXXXXX XXXXXX XXXXXX
Position: Waitress Grade/Step: NA 3/1 Level: CD: 3 Category: RPT Name:	In Out Total reg hrs Rate ph NDif/O/T hrs NDif/O/T rate Total \$	OFF	1530	1600	?	1600	1500	1530	XXXXXX XXXXXX XXXXXX XXXXXX
Position: Grade/Step: Level: CD: 3 Category: Name:	In Out Total reg hrs Rate ph NDif/O/T hrs NDif/O/T rate Total \$								XXXXXX XXXXXX XXXXXX XXXXXX
Position: Grade/Step: Level: CD: Category: Name:	In Out Total reg hrs Rate ph NDif/O/T hrs NDif/O/T rate Total \$								XXXXXX XXXXXX XXXXXX XXXXXX
Total Hours									
Total \$									

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**Figure 7-10: Open-ended schedules leave management at risk!**

A simple example may be useful to illustrate how to involve the first line supervisor. In a large NCO club there are three levels of management involved in operating the bars. There is the Club Manager, the Beverage Department Manager, and the Head Bartender. The head bartender is responsible for day to day operation of the bars under direct guidance of the Beverage Department Manager. As the first line supervisor, the Head Bartender should schedule the bartenders and waitresses required to meet operational requirements. The Beverage Manager should provide general guidance and policy about staffing the bar and special events which will change staffing requirements. That guidance should be in the form of total number of labor hours the Head Bartender can use to operate the bar, when waitress service must be available, and what special events will impact normal scheduling. The Beverage Manager should approve the by name schedule and all three levels of management should be monitoring schedule compliance.



*Figure 7-11: A graphic picture of the workforce.*

**Cause 3—Open Ended Scheduling.** Schedules are prepared with a report time but with no departure time. As a result the employees have no established time by which to accomplish their duties and the manager has no target by which to manage labor cost. This may seem like a minor point but this process encourages “riding the clock” and the extra half hours worked add up from day to day.

Schedules similar to the one shown at Figure 7-10 must be eliminated. Schedules must establish a “quitting” time as well as a starting time. Management must publish explicit labor policies that require employees to quit at the scheduled time without specific approval from the manager. Under “suffer and permit” rules, hours worked even if not scheduled or approved, may have to be paid to the employee if management has not taken specific action to ensure that the employee leaves when scheduled.

**Cause 4—Excess Setup Time, Breakdown Time, and Overlapping Shifts.** Careful analysis needs to be made of the time required to open and close the activity as well as change shifts. Many activities allow more time than is needed to accomplish the required tasks. This extra time is used by employees to socialize and plan personal activities. The TLMS Timeline Report displays a graphical timeline of employees’ work hours. Figure 7-11 is another bar graph tool that gives management a “snap shot” of what staffing looks like. Using this tool allows

management see the number of people coming in for setup and staying to closeout. They would also show the amount of overlap graphically. A picture of this non-revenue-producing time often helps management make decisions about the amount of time needed and the number of staff to schedule.

**Cause 5—Schedule Compliance Not Enforced.** Managers must review scheduled work hours and ensure that employees work the hours they are scheduled. Too often, unwary managers allow employees to “ride the clock,” performing work that is needed but that could be done within the scheduled hours of another employee. Use of hours in excess of the posted schedule should be a conscious decision based on required tasks that must be performed during this shift. The Schedule versus Worked Report and the Early/Late Report are valuable tools for the manager to use in reviewing excess hours.

All of the five causes of scheduling problems add up to one thing; use of excess manpower hours to operate the activity. In most cases, the key to success in managing labor cost is in managing the number of manpower hours used. Management must develop a normal manpower hours target (this will be discussed later in the staffing section) and then ensure the schedule reflects the plan. Lastly, management must enforce the schedule allowing deviation only in an emergency or when unexpected customer use demands increase staffing. All in all, the simple solution for scheduling problems comes down to—make a plan and then execute it. We, in management, frequently fall into two major pitfalls. The planned level of manpower is too high and the actual hours worked are even higher. The first pitfall will be discussed in the next section of this chapter. The second pitfall is simply a matter of checking, checking, and checking again.

## **STAFFING PROBLEMS**

The job descriptions and positions established to staff MWR activities are often created in reaction to current and immediate needs; with no real long term planning of the workforce. As a direct result, the required and actual workforce are seldom the same. Often, more part and full time positions are authorized than are needed. Job descriptions no longer reflect the work actually performed. Rates of pay are based on invalid job descriptions and grading.

In general, the primary cause of this situation is that management does not sit down periodically (at least yearly) and develop a NAF Personnel Requirements Document (PRD). When properly developed, this document lets management plan for the required workforce and ensure that the cost of that workforce is within the budgetary restrictions of the activity. During this process, incorrect job descriptions will be identified. Requirements for full and part time employees will be validated.

The procedures for development of the NAF PRD are specified in Section II, Chapter 5, AR 215-1. The first step required is for management to develop a “by position” labor schedule which will staff the activity for an average week. When developing this schedule the manager should seek input from first line supervisors, disregard present job descriptions, and not consider current employees. In essence, the schedule should be accomplished as if this was a brand new activity just opening. The schedule must consider all of the manpower hours required to operate the activity. These hours should include setup, breakdown, and shift changes. Figure 7-12 illustrates this by position labor schedule. Once this schedule is completed, it will tell management the type of positions required and the number of manpower hours required to staff the activity for a normal week.

WEEKLY LABOR SCHEDULE							Activity: Equipment Rental Center		
For use of this form, see AR 215-1; proponent agency is DCSPER									
Item	Action	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Total
Position: Manager	In	0930	0930	1030			0930	0930	XXXXXX
Grade/Step:	Out	1800	1800	1900			1800	1800	XXXXXX
Level: NF- 03 CD:4	Total reg hrs	8.00	8.00	7.00			8.00	8.00	39.00
Category: RFT	Rate ph								XXXXXX
Name:	NDif/O/T hrs			1.00					1.00
	NDif/O/T rate								XXXXXX
	Total \$								
Position: Mechanic	In	1100	1100			1100	1100	1100	XXXXXX
Grade/Step: NA08/01	Out	1930	1930			1930	1930	1930	XXXXXX
Level: CD: 2	Total reg hrs								0.00
Category: RFT	Rate ph								XXXXXX
Name:	NDif/O/T hrs	8.00	8.00			8.00	8.00	8.00	40.00
	NDif/O/T rate								XXXXXX
	Total \$								
Position: Rec Aide	In	1200	1200		1200	1200		1200	XXXXXX
Grade/Step:	Out	1930	1930		1730	1930		1930	XXXXXX
Level: NF- 01 CD: 3	Total reg hrs	5.50	5.50			5.50		5.50	22.00
Category: RPT	Rate ph								XXXXXX
Name:	NDif/O/T hrs	1.50	1.50		5.00	1.50		1.50	11.00
	NDif/O/T rate								XXXXXX
	Total \$								
Position: Rec Aide	In			1100	1130	1030	1100		XXXXXX
Grade/Step:	Out			1930	1730	1900	1930		XXXXXX
Level: NF- 01 CD: 3	Total reg hrs			6.50		7.00	6.50		20.00
Category: RPT	Rate ph								XXXXXX
Name:	NDif/O/T hrs			1.50	5.50	1.00	1.50		9.50
	NDif/O/T rate								XXXXXX
	Total \$								
Position: Rec Aide	In		1030	1130	1200				XXXXXX
Grade/Step:	Out		1800	1900	1700				XXXXXX
Level: NF- 01 CD: 1	Total reg hrs		7.00	6.00	4.50				17.50
Category: FLX	Rate ph								XXXXXX
Name:	NDif/O/T hrs			1.00					1.00
	NDif/O/T rate								XXXXXX
	Total \$								
Total Hours		23.00	30.00	23.00	15.00	23.00	24.00	23.00	161.00
Total \$									

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Figure 7-12: Sample "by position" labor schedule.

The next step is to determine the cost per hour for each of the positions scheduled. The effective rates of pay, including benefits, are calculated using DA Form 5554-E. This computer driven form requires only entry of the position, grade/step, category, and base rate to calculate the effective rates of pay for all categories of employee regardless of their seniority. Figure 7-13 illustrates this form completed for the four positions required to staff an equipment issue center. To find the effective rate of pay for a mechanic NA8-1 working overtime when he has been employed for less than 3 years, we locate the box where the mechanic rates are displayed (in our example that is the second box). Look down the second column to locate the overtime category (the third block). Once you have located the overtime line look across that line until it intersects first the base rate column and then the "< 3yrs" RAILS column. The number at the first intersection is the base rate for the mechanic working overtime and the number at the second intersection is the employee benefits cost. The sum of these two numbers

LABOR COST WORK SHEET  
FOR USE OF THIS FORM, SEE AR 215-1; THE PROPONENT AGENCY IS DCSPER

ITEM	CATEGORY		BASE RATE \$	FLX RAILS % 0.1065	EMP<3 YRS RAILS % 0.2365	EMP >3 YR RAILS % 0.2615	EMP>15 YR RAILS % 0.2865	TOTAL LABOR COST
POSITION: Manager	Reg Hours	100.00%	\$9.31	\$0.99	\$2.20	\$2.43	\$2.67	\$11.98
GRADE/STEP:	Night Duty	110.00%	\$10.24	\$1.09	\$2.42	\$2.68	\$2.93	\$13.18
LEVEL: NF-03								
EMP. CAT.: RFT	Overtime	150.00%	\$13.97	\$1.49	\$3.30	\$3.65	\$4.00	\$17.97
CD:4								
NAME:	Sun Prem	125.00%	\$11.64	\$1.24	\$2.75	\$3.04	\$3.33	\$14.97
HOURS PER WEEK: 40	ND & OT	165.00%	\$15.36	\$1.64	\$3.63	\$4.02	\$4.40	\$19.76
POSITION: Mechanic	Reg Hours	100.00%	\$7.03	\$0.75	\$1.66	\$1.84	\$2.01	\$8.69
GRADE/STEP: NA08/01	Night Duty	107.50%	\$7.56	\$0.80	\$1.79	\$1.98	\$2.17	\$9.34
LEVEL:								
EMP. CAT.: RFT	Overtime	150.00%	\$10.55	\$1.12	\$2.49	\$2.76	\$3.02	\$13.04
CD: 2								
NAME:	Sun Prem	125.00%	\$8.79	\$0.94	\$2.08	\$2.30	\$2.52	\$10.87
	ND & OT	161.25%	\$11.34	\$1.21	\$2.68	\$2.96	\$3.25	\$14.02
HOURS PER WEEK: 40								
POSITION: Rec Aide	Reg Hours	100.00%	\$6.93	\$0.74	\$1.64	\$1.81	\$1.99	\$8.74
GRADE/STEP:	Night Duty	110.00%	\$7.62	\$0.81	\$1.80	\$1.99	\$2.18	\$9.62
LEVEL: NF- 01								
EMP. CAT.: RPT	Overtime	150.00%	\$10.40	\$1.11	\$2.46	\$2.72	\$2.98	\$13.11
CD: 3								
NAME:	Sun Prem	125.00%	\$8.66	\$0.92	\$2.05	\$2.27	\$2.48	\$10.93
HOURS PER WEEK: 20M	ND & OT	165.00%	\$11.43	\$1.22	\$2.70	\$2.99	\$3.28	\$14.42
POSITION: Rec Aide	Reg Hours	100.00%	\$5.81	\$0.62	\$1.37	\$1.52	\$1.66	\$7.33
GRADE/STEP:	Night Duty	110.00%	\$6.39	\$0.68	\$1.51	\$1.67	\$1.83	\$8.06
LEVEL: NF- 01								
EMP. CAT.: RPT	Overtime	150.00%	\$8.72	\$0.93	\$2.06	\$2.28	\$2.50	\$10.99
CD: 3								
NAME:	Sun Prem	125.00%	\$7.26	\$0.77	\$1.72	\$1.90	\$2.08	\$9.16
HOURS PER WEEK: 20M	ND & OT	165.00%	\$9.59	\$1.02	\$2.27	\$2.51	\$2.75	\$12.09
POSITION: Rec Aide	Reg Hours	100.00%	\$5.14	\$0.55	\$1.22	\$1.34	\$1.47	\$5.69
GRADE/STEP:	Night Duty	110.00%	\$5.65	\$0.60	\$1.34	\$1.48	\$1.62	\$6.26
LEVEL: NF- 01								
EMP. CAT.: FLX	Overtime	150.00%	\$7.71	\$0.82	\$1.82	\$2.02	\$2.21	\$8.53
CD: 1								
NAME:	Sun Prem	125.00%	\$6.43	\$0.68	\$1.52	\$1.68	\$1.84	\$7.11
HOURS PER WEEK: FLX	ND & OT	165.00%	\$8.48	\$0.90	\$2.01	\$2.22	\$2.43	\$9.38

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Figure 7-13: Example of a completed labor cost work sheet.

represents the total cost of labor. In our example the base rate is \$10.55, the RAILS is \$2.49 and the total cost of the employee working overtime is \$13.04 per hour.

Once the required effective rates of pay are calculated, they are used to cost the labor schedule as shown at Figure 7-14. Cost each employee daily, totaling across to arrive at the weekly total for each employee. Finally, total downward to arrive at the total cost of labor for the week.

WEEKLY LABOR SCHEDULE							Activity: Equipment Rental Center		
For use of this form, see AR 215-1: proponent agency is DCSPER									
Item	Action	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Total
Position: Manager	In	0930	0930	1030			0930	0930	XXXXXX
Grade/Step:	Out	1800	1800	1900			1800	1800	XXXXXX
Level: NF- 03 CD:4	Total reg hrs	8.00	8.00	7.00			8.00	8.00	39.00
Category: RFT	Rate ph	\$11.98	\$11.98	\$11.98			\$11.98	\$11.98	XXXXXX
Name:	NDif/O/T hrs			1.00					1.00
	NDif/O/T rate			\$13.18					XXXXXX
	Total \$	\$95.84	\$95.84	\$97.04	\$0.00	\$0.00	\$95.84	\$95.84	\$480.40
Position: Mechanic	In	1100	1100			1100	1100	1100	XXXXXX
Grade/Step: NA08/01	Out	1930	1930			1930	1930	1930	XXXXXX
Level: CD: 2	Total reg hrs								0.00
Category: RFT	Rate ph								XXXXXX
Name:	NDif/O/T hrs	8.00	8.00			8.00	8.00	8.00	40.00
	NDif/O/T rate	\$ 9.34	\$ 9.34			\$ 9.34	\$ 9.34	\$ 9.34	XXXXXX
	Total \$	\$74.72	\$74.72			\$74.72	\$74.72	\$74.72	\$373.60
Position: Rec Aide	In	1200	1200		1200	1200		1200	XXXXXX
Grade/Step:	Out	1930	1930		1730	1930		1930	XXXXXX
Level: NF- 01 CD: 3	Total reg hrs	5.50	5.50			5.50		5.50	22.00
Category: RPT	Rate ph	\$ 8.74	\$ 8.74			\$ 8.74		\$ 8.74	XXXXXX
Name:	NDif/O/T hrs	1.50	1.50		5.00	1.50		1.50	11.00
	NDif/O/T rate	\$ 9.62	\$ 9.62		\$10.93	\$ 9.62		\$ 9.62	XXXXXX
	Total \$	\$62.50	\$62.50		\$54.65	\$62.50		\$62.50	\$304.65
Position: Rec Aide	In			1100	1130	1030	1100		XXXXXX
Grade/Step:	Out			1930	1730	1900	1930		XXXXXX
Level: NF- 01 CD: 3	Total reg hrs			6.50		7.00	6.50		20.00
Category: RPT	Rate ph			\$ 7.33		\$ 7.33	\$ 7.33		XXXXXX
Name:	NDif/O/T hrs			1.50	5.50	1.00	1.50		9.50
	NDif/O/T rate			\$ 8.06	\$ 9.16	\$ 8.06	\$ 8.06		XXXXXX
	Total \$			\$59.74	\$50.38	\$59.37	\$59.74		\$229.22
Position: Rec Aide	In		1030	1130	1200				XXXXXX
Grade/Step:	Out		1800	1900	1700				XXXXXX
Level: NF- 01 CD: 1	Total reg hrs		7.00	6.00	4.50				17.50
Category: FLX	Rate ph		\$ 5.69	\$ 5.69	\$ 5.69				XXXXXX
Name:	NDif/O/T hrs			1.00					1.00
	NDif/O/T rate			\$ 6.26					XXXXXX
	Total \$		\$39.83	\$40.40	\$25.61				\$105.84
Total Hours		23.00	30.00	23.00	15.00	23.00	24.00	23.00	161.00
Total \$		\$233.06	\$272.89	\$197.18	\$130.64	\$196.59	\$230.30	\$233.06	\$1,493.71

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Figure 7-14: Sample of a costed "by position" labor schedule.

Based on this total, the cost of labor for the average month can be calculated by multiplying by 4.3. The resulting number can be compared to budgeted labor cost. If the costed labor schedule is less than or equal to the budget then the "by position" schedule is affordable and can be used to establish positions for later staffing. If the costed schedule is higher than the budget then management must relook the original "by position" labor schedule.

Now that we know that we can "afford" a specific number of hours weekly, we can use that data to establish the Personnel Requirements Document. This document relates the number of hours required to the number of positions necessary to staff the activity. A sample of this form is shown at Figure 7-15.



<b>PERSONNEL REQUIREMENTS DOCUMENT</b>				<b>PAGE _1_ OF _1_</b>		
<b>INSTALLATION: FORT IMAGINARY</b>				<b>ACTIVITY: EQUIPMENT ISSUE CENTER</b>		
<b>PARA/LN</b>	<b>POSITION</b>	<b>GRADE</b>	<b>CATE- GORY</b>	<b>AUTH- ORIZED</b>	<b>POSI- TION</b>	<b>NAME OF INCUMBENT</b>
1/01	MANAGER	NF-3	RFT	1	01	
1/02	MECHANIC	NA-8	RFT	1	01	
1/03	RECREATION AIDE	NF-1	RPT	2	01	
					02	
1/04	RECREATION AIDE	NF-1	INT/C	2	01	
					02	
<b>I CERTIFY THAT SUFFICIENT FUNDS EXIST TO SUPPORT THIS PERSONNEL REQUIREMENT DOCUMENT:</b>				<b>APPROVED:</b>		
<b>FUND MANAGER:</b>				<b>DPCA:</b>		

*Figure 7-15: An example of the NAF PRD form.*

When establishing the positions on the NAF PRD, management must ensure that the workforce mix is correct. Ideally, management would want a solid core of full time and part time employees to ensure stability of operations. That staff would be augmented by a sufficient number of intermittent employees to cover peak hours and perform relief for regular employees. When management selects a full time position for staffing on the PRD, they are saying that forty hours of required work is available each and every week. Likewise, selecting a part time position locks management into a minimum of twenty hours employment each week. With flex employees, no minimum hours are guaranteed.

In our sample PRD, we selected two full time positions, two regular part time positions and two flex positions. Based on the authenticated by position labor schedule, there is a requirement for forty hours of management time and forty hours of mechanic time. By electing to staff these key positions with regular full time employees, management sacrifices some of its flexibility in hopes of attracting better quality employees to fill the job. Bear in mind that management could have selected two part time mechanics to fill the forty required hours of work.

Once the PRD with supporting costed labor schedule is completed, it must be forwarded through channels to the DPCA for approval. Since this is the document that will serve as the foundation for managing labor cost and staffing the activity, it should be highly scrutinized to ensure that management is not over obligating the fund.

After the DPCA approves the document, it becomes the basis for all hiring actions. No employee can be hired without an approved position on the PRD. When new positions are required the authentication process must be redone to ensure that the activity can still afford labor costs at that level.

Now that we have established the procedures for staffing the NAF side of the house, let's revisit the schedule compliance that we discussed above. The authenticated hours calculated on the "By Position" labor schedule are the standard with which to manage labor. The real trick to managing labor cost is to manage hours—not dollars. If we've costed the schedule and we are operating within the allocated hours it is doubtful that the labor cost budget will be exceeded.

Preparation of the NAF PRD acquaints management with the cost of benefits and establishes the number and category of people who will receive those benefits. In essence, preparing the NAF PRD properly is the first step in controlling the next cause of increasing payroll costs.

## **CONTROLLING PAY AND BENEFIT INCREASES**

Until very recently, controlling benefit increases was very simple. Unless management hired the employee as a part time or full time employee, there were no benefit costs. Even if hired, controlling the cost of benefits really related back to controlling pay increases, since benefits are calculated as a percent of pay.

Prior to the advent of the NAF Pay Banding system (which applies to the old UA, AS, and PS category employees), pay increases were tied to annual appraisals and longevity as they still are today for NA employees. Under this system, the time frame and amount of increases which could be given to an employee were very controlled. Likewise, the initial hiring salary was structured and based on the CPO's classification of the job and the pay schedule in effect. All in all, management could really only impact on increasing pay by granting merit pay increases and approving longevity step increases.

Under the rules of NAF pay banding, management classifies positions and can hire employees at any level within the band. Pay raises are also at the discretion of management and are keyed to performance—not longevity. With this kind of discretion, management has ample opportunity to increase Labor Cost above the approved budget standard. Most installations that have fully implemented pay banding have instituted controls to ensure payroll costs do not increase drastically due to hiring all employees at the top of the band or handing out raises indiscriminately. Unfortunately, some of the controls instituted have reduced management's ability to attract and retain high performing staff. This is sad because that was the true purpose of implementing the pay banding system.

The major issue which needs to be addressed, is establishing a control system which allows management the flexibility to hire and keep good employees, while maintaining a labor cost consistent with the approved budgeted goal. Here again, proper use of the PRD system lets management cost the impact of hiring at the top of the range or giving a pay raise to see the impact on budget goals.

The DA Form 5314—Personal Services Payroll (Sample shown at Figure 7-1) is a further source of information on the actual amount being paid for employee benefits. The total costs for all of the benefits are shown at the bottom of the sheet as well as a summary of all of the types of hours worked. As an example, this report will list

the number of overtime hours paid for the pay period as well as the cost of employer's contribution to Group Life Insurance.

## **EXCESS USE OF OVERTIME**

Overtime may be the culprit for increased Labor Cost if used indiscriminately. You get the same hour of performance from the employee and you pay them 1.5 times the normal rate. If we also consider that this work is performed after the regular eight hours shift or on the sixth day, we may not even be getting full performance for our 1.5 times the normal rate.

No, we are not saying that you should never use overtime. There are certainly times when overtime is appropriate but it should be controlled to those times which are true emergencies or when there is an unexpected or irregular "spike" in customer use.

Recently, we visited an installation that had extremely strong control over use of overtime. Use had to be justified in advance and approved by the ADCFA. The club manager had requested 8 hours overtime for the chef to support a major sit down dinner for approximately 400 people. The chain of command had approved the request based on the extra revenue that the party would generate. The ADCFA looked at the cost of paying the chef 8 hours of overtime (in excess of \$150) and disapproved the request and suggested that management and lesser paid cooks could handle this party. Needless to say, the party turned out less than satisfactory. The fund ended up refunding most of the money for the dinner and suffered nearly a \$2,000 loss as a result of not paying \$150 in overtime. To make matters worse, the manager was chastised for not cross-training the cooks to be able to handle large parties.

The point of this short "war story" is to point out that overtime, when it produces excess revenue, is probably good—not bad. In addition, the most critical people who should be paid overtime when needed are your highly skilled workers like chefs, greens keepers, lead child care providers, and senior recreation aids.

Specific procedures should be established at the installation to control the use of overtime. Common sense dictates that the need for overtime should be fully justified in advance. When overtime is used often, activity level and senior management need to review the staffing plan to ensure that enough positions are provided to staff the activity. The Overtime Report in TLMS will identify employees who are approaching overtime and/or have accrued overtime hours during a selected time period.

As we conclude our look at the possible causes for increased labor cost; experience tells us that the primary cause is not overtime, increasing pay or benefits, or staffing levels, but working employees more hours than the plan or budget.

## **SUMMARY**

In this chapter we have defined Labor Cost and Labor Cost % and discussed how they are used to monitor trends. We discussed briefly the need to ensure that labor cost is charged to the correct department. We demonstrated that Labor Cost is comprised of both fixed and variable costs and explored the impact of this fact. We pointed out that because a portion of labor cost is fixed, it is not always possible to reduce labor cost proportionally to a reduction in revenue.

We provided management with definitions of negative Labor Cost trends and reviewed the four major areas which could create those trends. As we looked at the problems which might allow the cost of labor to increase, they were all related to shortfalls in planning manpower.

With a properly executed NAF PRD, positions, category of employee, pay rate, hours required, and schedule are all systematically determined. If the system is implemented properly overtime will not be required, pay and benefits will not show unplanned increases and the hours worked will equal those planned. The bottom line is that Labor Cost will be at or near the planned or budgeted level.

## CHAPTER WRAP-UP

### KEY POINTS

- Labor Cost is defined as the total expense for services rendered by employees to complete the particular mission of the program or activity for which they work.
- Labor Cost includes all of the direct cost of wages and shift differentials as well as the indirect costs resulting from the employer's contributions to FICA, health and life insurance, worker's compensation, and retirement.
- Total Labor Costs are calculated by adding together the 25 GLACs which are used to record the parts of Labor Cost. Review of these GLACs month to month may assist management in determining causes for increasing Labor Costs.
- Incorrect estimates of Labor Cost for the end of the month may skew reported financial data unless management is involved in providing input. In general, management can more accurately estimate labor cost.
- Labor Cost is monitored using absolute dollars and Labor Cost %. While the Labor Cost % is the most common tool used, absolute dollars are used when Labor Cost is considered a fixed cost expense.
- The formula for calculating Labor Cost % is

$$\text{Labor Cost \%} = \frac{\text{Labor Cost \$}}{\text{Total Revenue \$}} \times 100$$

- Because we monitor Labor Cost using the Labor Cost % we need to consider problems causing negative trends in Total Revenue as well as labor cost.
- There are four possible causes for increasing Labor Cost
  - Scheduling Problems
  - Staffing Problems
  - Controlling Pay and Benefits Increases
  - Excess Use of Overtime
- Regardless of the cause of the increased Labor Cost, much of the solution is in staff planning using the NAF PRD document. This approach systematically establishes positions, categories of employees, pay rates, hours required, and schedule.

### REVIEW QUESTIONS

1. Labor Cost is a:
  - a. Fixed Cost
  - b. Variable Cost
  - c. Semi-Fixed Cost
  - d. Could be any of the above

2. When preparing the by position labor schedule, management must consider carefully the current job descriptions in use and employees' capabilities.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

3. Name four of the five types of scheduling problems commonly found in MWR activities.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

4. Give one example where use of overtime makes more sense than hiring additional people.

5. Discuss two provisions under NAF pay banding that could increase labor cost.

6. What is the single greatest cause of labor cost increases?

7. At a minimum, the NAF PRD should be recalculated twice a year.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

8. The NAF PRD must be approved by the FMD.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

9. Annual Leave is accrued each pay period and has no effect on payroll when used.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

10. Sick Leave is accrued each pay period and has no effect on payroll when used.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

11. If a small activity has sales of \$14,705, Other Operating Income of \$3,950, Other Income of \$57, and Labor Cost of \$3,954 for the month, calculate the Labor Cost %.

# Chapter 8

## Analyzing Other Operating Expenses

**Applied Financial Planning**

## **Chapter 8**

### **Analyzing Other Operating Expenses**

Other Operating Expenses (OOE) are those expenses other than labor and cost of goods that are created from operating the MWR activity. OOE is the third expense reported on the summary income statement format (at line 5). While the types of expenses reported on this line of the income statement are fairly straight forward, arriving at the Total Other Operating Expense is somewhat complex as a result of the number of GLACs that are used to report OOE data.

In this chapter, we will explore all of the GLACs that comprise Total Other Operating Expenses, review how OOE is calculated, determine how to identify negative trends, and finally, look at the causes and solutions for those negative trends.

The largest hurdle to be overcome in managing OOE, is that there are so many different type of expenses. It takes time for you to become familiar with the nature of each GLAC used in the activity and determine options which will assist in controlling the costs. We will discuss fixed, variable, emergency, discretionary and several other types of expenses as we determine causes for negative trends.

In attempting to stem OOE negative trends, you will again face the two edged sword of cutting expenses to the right level. To be effective, you must control expenses and operate within the plan, while still spending enough money in the “right” expense areas to meet or exceed customer expectations. A tough task for even the experienced manager.

#### **DEFINING OTHER OPERATING EXPENSES (OOE)**

OOE can be defined as those costs of operation not associated with Cost of Goods Sold or Labor that are consumed to provide a product or service to the customer. The very nature of these expenses are diverse and, as a result, there are more than 70 GLACs used to categorize them for reporting on the income statement. Some of the types of expense are common to each of the MWR activities while others are program specific. As an example, most programs will have supply expenses, payroll cost expenses and communications expense. On the other hand, only clubs and recreation centers are likely to have bingo prize expenses.

#### **CALCULATING TOTAL OTHER OPERATING EXPENSES**

Other Operating Expenses are collected directly from authenticated invoices, credit card logs, and petty cash vouchers that document receipt of the products or services. When the documents are received at the activity, you should annotate a department code, suggest the GLAC, and forward to NAF Financial Services. The suggested GLAC and department code are provided so that NAF Financial Services will charge the cost correctly on the financial statement.

While you make the decision for which department to charge, NAF Financial Services decides which GLAC to charge. Once all the expenses for the month are posted to the appropriate GLAC, the Total Other Operating Expense is calculated. This is accomplished by simply totaling all of the GLACs mathematically. Figure 8-1 illustrates how total OOE is calculated.



Calculating Total Other Operating Expense		
+ 652	Promotion Expense	\$425
+ 654	Resale Merchandise Spoilage	47
	Breakage and Obsolescence Expense	
+ 657	Facilities Maintenance & Repair Expense	127
+ 658	Equipment Maintenance & Repair Expense	233
+ 659	Vehicle Maintenance & Repair Expense	57
+ 660	Training Expense	122
+ 664	Vehicle Operating Expense	92
+ 686	Contract Service Expense	422
+ 726	Supplies Expense	207
+ 729	Utilities Expense	103
TOTAL OTHER OPERATING EXPENSE		\$1,835

**Figure 8-1:** Total other operating expense is the sum of the GLACs.

more specifically, the ones that appear on your income statement. You should know what GLAC NAF Financial Services uses to post every expense on your income statement, as well as be familiar with the use of all of the other GLACs. By knowing where expenses should be posted, you will be able to identify totals that are too high or too low based on operations during the period.

As an example, if you repaired the engine of the truck you use in the Administrative Department and put new tires on as well, you would expect to find corresponding increases in GLACs 659 and 664. If these expenses are not shown in the Administrative Department, you must check reporting in other operating departments. If they are not found there, you should contact NAF Financial Services to see what happened. Was the paperwork lost? Were the expenses charged to another MWR activity? What needs to be done? The bottom line is proper use of the GLACs allows you to break expenses down to bite-sized pieces for analysis.

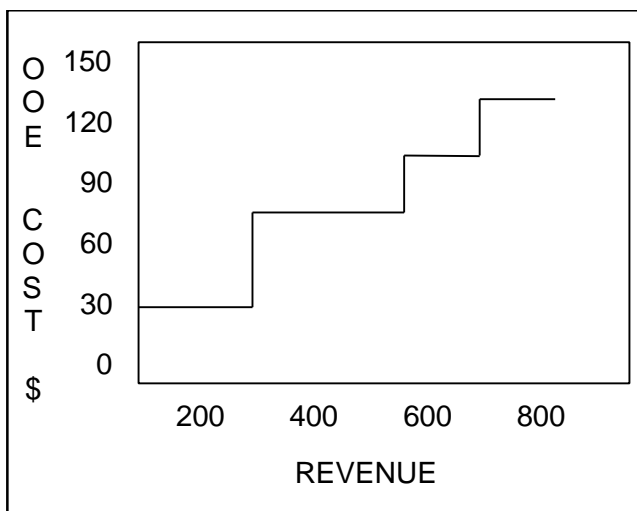
## HOW TO MONITOR OTHER OPERATING EXPENSE COSTS

We monitor OOE using trend analysis techniques. The question we must continually ask ourselves as we look at OOE is whether the costs are rising, falling or where planned. We perform the actual trend analysis using two different methods. We look at the trend in both absolute dollars and as a percent of total revenue.

We probably use both of these methods of looking at trends because we have great difficulty deciding whether OOE is a fixed or variable cost. As you remember from previous chapters, a cost is said to be fixed if it does not increase with customer use or as revenue increases. Conversely, a cost is categorized as variable if it increases as customer use or revenue increases. If we stop and think about the nature of all of the different types of Other Operating Expenses, we will soon come to the conclusion that they are neither fixed nor variable, but both.

Obviously, if there are more than 70 GLACs we have not used them all in this illustration. Often people ask why we use so many different accounts to record the Other Operating Expenses. While there may be other answers from the accountant's perspective, your best answer is that by providing us compartmentalized reporting of the elements that comprise OOE, you have the opportunity to review the feeder expenses for comparisons with the budget or similar costs in a previous period. Since the feeder GLACs are reported in detail, it saves you from having to maintain them via "stubby pencil."

In order to make full use of all of the information provided in the Other Operating Expense section of the Income Statement, you will need to become familiar with the GLACs that are available for use and



**Figure 8-2:** Other operating expense is a semi-fixed cost.

Some of the expenses are fixed once the decision to open the door is made. As an example, insurance expense, basic telephone service and, for most activities, utilities are constant regardless of revenue. With some expenses they are fixed over a long period of customer use and then shift to a higher level. As an example promotion expense, may be fixed at a maximum dollar amount until the participation in the program reaches a certain level and then the amount would increase to a new level. Still other expenses are almost purely variable. Most of the paper goods purchased for snack bars or resale activities go up each and every time the customer use goes up. If the customers buy more food and drink, then we use more paper plates and cups. In the final analysis when looking at Total OOE, the best description we can use is that those costs are semi-fixed just like Labor Cost. Figure 8-2 illustrates a semi-fixed cost.

The value of looking at whether OOE is a fixed or variable cost lies in which method we use for conducting a trend analysis. If we say that OOE is a fixed cost, the trend analysis is best accomplished in absolute dollars. If the expense is not responsive to changes in customer use or revenue, why index it to Total Revenue. On the other hand, if OOE is a variable cost, we would have to consider both changes in operating expense levels (in dollars) as well as changes in revenue (in dollars).

The most commonly used comparison today is to accomplish the trend analysis as a percent of revenue. Using this method the OOE% is calculated as shown in Figure 8-3 and compared to a standard to determine the trend. The most commonly used standard is the budgeted OOE%, but previous months and the same month last year can also be used for comparison. In simple terms, an increase in OOE% is considered a negative trend and a decrease is considered positive. This concept is highlighted at Figure 8-4. **Note the question marks following the definition of a decreasing percentage as a positive trend. Mathematically it is undoubtedly a positive trend, but if expenses are reduced too much when compared to revenue they may have a drastic impact on operations.**

$$\text{OOE\%} = \frac{\text{OOE \$}}{\text{Total Revenue \$}} \times 100$$

Figure 8-3: Calculating the OOE percentage.

#### Comparing OOE to a Standard

Increasing %	=	A Negative Trend
No Change %	=	A Positive Trend
Decreasing %	=	A Positive Trend ??

Figure 8-4: OOE trends defined.

Figure 8-5 shows some OOE% data that may make the concept more clear. In Activity A the OOE% is on a downward trend because revenues have increased, and although OOE dollars have increased, the OOE% compared with revenue has decreased. This reduced OOE% is probably a plus because the fixed portion of OOE is being spread over more revenue dollars. On the other hand, Activity B has

managed to maintain the same OOE% even though Total Revenue is going down. If we assume that the decrease in revenue is being caused by something the manager can't control (troop deployment or downsizing), you have been extremely effective at controlling OOE%, but at what cost? If fixed costs are still the same, then the manager must have cut the variable portion of OOE to "the bone" or further. What impact will this have on long-term operations? Will these cuts in expenses foster further cuts in revenue?

Monitoring OOE% Month to Month						
	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>
<u>Activity A</u>						
OOE \$	\$1,000	\$1,100	\$1,200	\$1,250	\$1,300	\$1,300
REVENUE \$	7,000	7,801	8,510	8,929	9,286	9,654
OOE %	14.3%	14.1%	14.1%	14.0%	14.0%	13.5%
<u>Activity B</u>						
OOE \$	\$1,000	\$ 972	\$ 959	\$ 938	\$ 924	\$ 878
REVENUE \$	7,000	6,900	6,800	6,700	6,600	6,500
OOE %	14.3%	14.1%	14.1%	14.0%	14.0%	13.5%

**Figure 8-5: Which activity shows a positive trend?**

Absolute dollars are used to accomplish the trend analysis when you feel that the general nature of OOE is fixed. When absolute dollars are used to compare against a standard—the budget, last month, or the same month last year—an increase in dollars is a negative trend. Expenditures, at or below the standard, are considered a positive trend. Just as with monitoring OOE%, OOE dollars can be cut too much. With drastic reductions in OOE, you must look at the overall impact on the program and meeting customer expectations. Several MWR managers have managed expenses so well that they managed themselves out of business.

During this section, we have discussed at length the concept of fixed and variable expenses and how they impact on the Other Operating Expense trends. As we proceed through the chapter and get into controlling OOE there are several other subcategories of OOE that will impact on how you will react to trends. For simplicity sake, we will define and characterize these expenses before moving on.

The first of these subcategories of expense is termed Emergency Expenses. These are expenses that were not planned for in the budget, but must be executed in order for the activity to continue to operate. An example of this type of expense is when the compressor on a refrigerator breaks down. Although not planned, this expense must be incurred.

The second of these subcategories of expense is Nondiscretionary Expenses. These are expenses that are planned and must be incurred in this month. These are expenses that the manager has little or no control over. Examples of Nondiscretionary Expenses include insurance, utilities, and contract service expense.

The third of these subcategories of expense is termed Discretionary Expenses. They are valid requirements that need to be incurred, but can be put off without a major immediate impact on the day to day operations. An example of a discretionary expense would be entertainment in a club. Some of this cost could be put off until later. These are the only expenses that you can decide whether or not to execute in the short term.

As we look at controlling labor cost, we will come back to these subcategories of expenses again. It will be extremely important for the manager at the activity level to determine which of these subcategories his various Other Operating Expenses fall into. In the short term those that are categorized discretionary are the only ones that can be used to offset increases in emergency and nondiscretionary expenses.

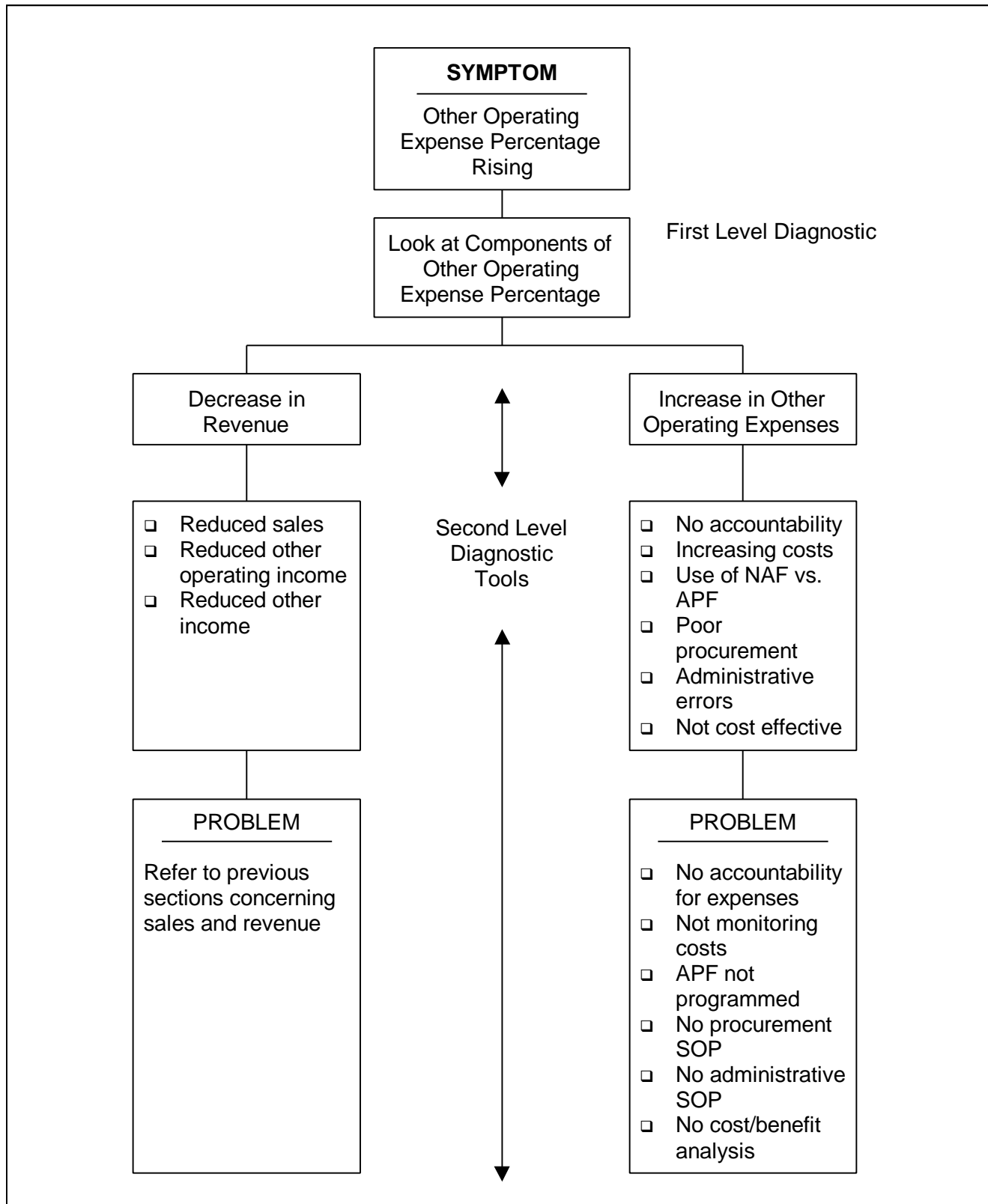


Figure 8-6: Causes of increased other operating expense percentage.

## HOW TO FIND THE REAL PROBLEM

The key issue in finding the real problem is looking for the operational problem that created the negative trend in OOE. Since, primarily, we use the OOE% when accomplishing the trend analysis our first step is to look at the causes of a negative trend in the elements that make up the OOE%. Did the Total Revenue Dollars decrease, did the Other Operating Expenses increase, or did both of the elements show a negative trend?

The beginning point for the second step in the analysis must be to relate negative Total Revenue and OOE trends back to the day to day operational causes. Figure 8-6 graphically represents the relationship between negative trends and operational causes. We will look at each of the causes as we continue our analysis of Other Operating Expenses.

A decrease in Total Revenue would be further analyzed to determine which of its components—Sales, Other Operating Income, or Other Income—are causing the negative trend. Since handling negative trends in those areas were covered in Chapters 2 through 5, we'll concentrate on the causes for increasing OOE dollars.

To begin the analysis, we must determine which of the GLACs that comprise OOE are out of tolerance and causing the overall trend. This can be accomplished using several different types of comparisons. The first analysis that could be used is to look at monthly and year to date comparisons of percentages for each of the GLACs that comprise Total OOE. That analysis is shown at Figure 8-7. You will note in the figure that we have calculated the individual expense percentage for each of the GLACs that comprise OOE. The formula for calculating that percentage is the same as the one for calculating the OOE% except you substitute the GLAC dollars for the OOE dollars. The two formulas are shown side by side at the bottom of Figure 8-7.

Monitoring Other Operating Expense Percentages by GLAC										
Item	Oct	%	Nov	%	Dec	%	YTD`	%	Budget	%
Total Revenue	\$1,959		\$2,134		\$4,944		\$9,037		\$8,903	
Total OOE	304	15.5%	453	21.2%	867	17.5%	1,624	18.0%	1,309	14.7%
Supplies	\$ 107	5.4%	\$ 123	5.8%	\$ 299	6.0%	\$ 529	5.8%	\$ 445	5.0%
Fac Maint/Rep	0		150	7.0	295	6.0	445	4.9	200	2.2
Equip Maint	70	3.7	80	3.7	95	1.9	245	2.7	267	3.0
Furn & Equip	60	3.0	45	2.1	100	2.0	205	2.3	222	2.5
Vehicle Op Exp	57	2.9	45	2.1	62	1.3	164	1.8	135	1.5
Payroll Svc Exp	10	.5	10	.5	16	.3	36	.3	40	.4
<div> <div> <div>OOE \$</div> <div>OOE % = <math>\frac{\text{Total Revenue \\$}}{\text{Total Revenue \\$}}</math> x 100</div> </div> <div> <div>Indiv Exp \$</div> <div>Indiv Exp % = <math>\frac{\text{Total Revenue \\$}}{\text{Total Revenue \\$}}</math> x 100</div> </div> </div>										

Figure 8-7: Monitoring OOE% by GLAC.

Overall, compared to budget, Total OOE shows a negative trend. Each of the months are over the target for YTD. Where do we start? By looking at the budget for individual GLACs we see that supplies, facility maintenance and repairs, and vehicle operating expenses are causing the negative trend. Based on the analysis, this is where we should look. Increases in facilities maintenance and repair were probably an emergency expense, and it is likely vehicle operating expense was nondiscretionary although it could be misuse of the vehicle. A certain

Monitoring Other Operating Expense Dollars by GLAC					
<u>Item</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>YTD</u>	<u>Budget</u>
Total Revenue	\$1,959	\$2,134	\$4,944	\$9,037	\$8,903
Total OOE	304	453	867	1,624	1,309
Supplies	\$ 107	\$ 123	\$ 299	\$ 529	\$ 445
Fac Maint/Rep	0	150	295	445	200
Equip Maint	70	80	95	245	267
Furn & Equip	60	45	100	205	222
Vehicle Op Exp	57	45	62	164	135
Payroll Svc Ep	10	10	16	36	40

**Figure 8-8: Monitoring OOE dollars by GLAC.**

portion of the supply expense was probably discretionary and you might have been able to postpone some of that expense until later. One more possibility existed in this situation to bring expense back into line. The furniture & equipment expenses were probably discretionary and could have been postponed to help bring OOE back to the budgeted level. By looking at the analysis, you can find options to “balance the budget” as well as control the mushrooming expenses.

Before we go on, let’s take a look at the same data just using an absolute dollar analysis (see Figure 8-8). Here we are making the assumption that all of the expenses incurred should be more or less constant over the period. In our analysis, you could compare the monthly figures to about one third of the budget figures to get an idea how “on track” we are. The data shows that almost all of the individual GLACs are showing an increasing or mixed trend from month to month. Looking at this analysis, we would identify the same general problems as in the previous analysis. We might also be somewhat concerned about equipment maintenance that appears to be growing. Is old equipment being repaired over and over again? Would it be cheaper to replace the equipment?

Now that we have reduced the trend in OOE back to the GLACs that comprise it, we must look at the operational causes that could be allowing those GLACs to increase. The major potential causes for growing expenses are:

- Excessive Use (Poor Controls)
- Increasing Costs
- Conversion of Costs from APF to NAF
- Poor Procurement
- Poor Administration of Expense Areas

For the remainder of the chapter, we will explore the potential causes and look at specific corrective action(s) you might use to reverse their negative impact. In our discussion we will demonstrate several analyses which you can use to investigate causes of increased expense.

## EXCESSIVE USE (POOR CONTROL)

Over the years, management concentrated on controlling resale merchandise. Every manager is aware that the products not under immediate scrutiny by sales employees must be secured, and we run numerous checks and balances to ensure employees or customers do not divert the items. Unfortunately, many of the commodities used as expense items are just as easily wasted or diverted as our resale merchandise, but do not get the degree of interest. Cleaning supplies, gasoline, oil, paper goods, and administrative supplies are all materials that employees could easily waste or misuse.

Often the costs associated with these commodities are increasing, without us even realizing that an increase in GLAC 726—Supplies is equal to increased use of paper plates, plastic cups, napkins, garbage bags, etc. Even with costs rising, the materials are not stored in a secure place with working commodities issued for activity use. No one goes back at the end of the month to see if the quantity of gasoline used is reasonable based on the mileage driven in the vehicle.

Guest House Expense Analysis Dollars				
	Mar	Apr	May	Jun
Room Nights	2,032	2,044	2,056	2,073
<u>Items Used</u>				
Bath Soap	\$1,210	\$1,236	\$1,298	\$1,741
Hand Soap	462	464	453	682
Shampoo	350	345	375	400
Glasses	400	624	656	780
Total Items	\$2,422	\$2,669	\$2,782	\$3,603
Dollar Cost/ Room Night	\$ 1.19	\$ 1.31	\$ 1.35	\$ 1.74

**Figure 8-10: Availability increases cost!**

supplies expense and numerous others), you should institute appropriate internal control procedures and/or criminal investigation. Figure 8-11 shows a simple analysis prepared by a wiser but sadder warehouse manager when his vehicle operating costs started rising. By going back and looking at the feeder data, he knew that the two vehicles could not be using all of the gas consumed. Some quick detective work between management and the CID proved that one of the employees was receiving cash and gas back from the vendor. Had not manage-

Guest House Expense Analysis Product Use				
	Mar	Apr	May	Jun
Room Nights	2,032	2,044	2,056	2,073
<u>Items Used</u>				
Bath Soap	2,050	2,095	2,200	2,950
Hand Soap	2,100	2,109	2,060	3,100
Shampoo	700	690	750	800
Glasses	4,000	6,236	6,564	7,800
Total Items	8,850	11,130	11,574	14,650
Ratio of Items to Rooms	4.5:1	5.4:1	5.6:1	7.1:1
In this case the increase was caused by employees putting more (excess) of the products in certain rooms. When previous policy was reinstated the use fell back into line.				

**Figure 8-9: Availability often increases use!**

Figure 8-9 represents an example of this increased use where there was no diversion involved. In this case, the employees simply put more of the products in the rooms at the guest house. You can readily see the results. While a few extra bars of soap, bottles of shampoo, and plastic glasses don't seem important initially; when we looked at the increased cost associated with the use of supplies, it was a bit shocking. Figure 8-10 shows the original cost per room for these supply items and how that figure increased as the employees provided more of the items.

The real solution to increasing use of supply items is really management control and attention. When supply costs are rising as a result of increased use of expense type products (eg. gasoline and oil for vehicle operating expense, paper goods, and cleaning products for

Vehicle Operating Cost Analysis March 19X3			
Product	Amt Used	Est Cost	Qty Used
Gasoline	\$500	\$ .99	505 gl
Oil	\$ 36	\$1.50	24 qt

In this activity, if we estimate the two trucks get 10 miles per gallon, they would have had to travel 5,050 miles to consume the gas. The actual mileage for the month from vehicle logs was only 2,034. Consuming 24 quarts of oil when no oil changes were recorded is just as suspect.

**Figure 8-11: Why are vehicle operating costs high?**

will tell us who is moving the product and how much is being issued at a time. If you review the issue sheets, it will alert them to the problem when the time between issues starts to shrink.

## INCREASING COSTS

A second major reason that Other Operating Expenses increase is that the cost of products and services continue to increase due to inflation in the economy. Solving this problem is one of the most difficult challenges you will face. There is always a possibility that we may be able to reduce some of the discretionary costs by finding another substitute product. Using our example from the guest house, maybe we can use paper cups as opposed to the more expensive plastic cups. We may be able to offer the product less often to reduce costs. Rather than supplying a new bottle of individual shampoo each day, we might supply it at check-in only. In some cases we may even be able to do away with the expense totally. Perhaps we only need to provide one type of soap in our guest house above. All of these decisions to cut cost would have to be balanced against customer service considerations.

When there are no longer Other Operating Expenses which can be cut, then you must seek price increases to bring the ratio of revenue and costs back into balance. The decision to increase prices must be thoroughly explored and we must plan for its implementation. You must minimize the impact on customer perceptions by repackaging products and services or adding value to them at the same time price is changed. Innovation is a key element of selling price adjustments.

## CONVERSION OF EXPENSE COSTS FROM APF TO NAF

Often as Appropriated Fund (APF) dollars become less and less available, MWR Operating Expenses authorized for payment by APF are shifted to NAF. With this shift in costs, NAF budget targets cannot be met and Total Other Operating Expenses increase.

While shrinking APF is the major cause of shifting costs to NAF, some costs are shifted because of frustration with the APF procurement system. While the use of APF Impact credit cards has made the system faster, for larger purchases we sometimes fail to plan procurement actions with sufficient lead time to use the APF system. When the products are needed in a hurry, the quicker NAF process is used.

ment taken the time to prepare the analysis, this condition might have gone unrecognized for several additional months.

There are several basic measures that you should initiate for all expense items. The first control is that products not needed for immediate use should be secured. You should also establish expected usage figures for expense products based on experience. If those expected use levels are exceeded, you should investigate increased consumption to find out if it was needed, excessive use, diversion or whatever. The last routine control procedure that should be implemented is to require expense items to be issued from the store-room to the work area just like we do with resale merchandise. In the event of a problem, the issue sheet



On paper, the solution for this problem is simple. Budget for all authorized APF support. Defend the need for the authorized APF support and fully document the impact to NAF, and ultimately to the customer, if Appropriated Funding is lost. If APF is not available for authorization, require certification of nonavailability from Resource Management Directorate before spending NAF dollars. When APF is not available, limit substituting NAF to those expenditures that are critical to the program.

## POOR PROCUREMENT PROCEDURES

A third problem which may result in increase OOE is poor procurement procedures. There is much emphasis and research placed on the type, quality and variety of merchandise procured for resale. Obviously, unless we purchase what the customer wants to buy, it is not likely that we're going to sell it. When purchasing supply and expense items, not nearly enough attention is spent on determining the right product.

In most MWR activities, the only specification put forth is the generic name of the product, eg. floor wax, and a request for the lowest price. Little or no thought is given to another product somewhat higher priced, but which will cover 3 or 4 times the area as the first product thus reducing unit cost.

### Developing Specifications

Listed below are some of the typical product characteristics that must be provided to the procurement office in order to ensure you get the product you want.

1. Common name of the item
2. Kind of material (e.g., type, grade, alternatives)
3. Dimensions, size or capacity
4. Electrical data
5. Principles of Operation
6. Restrictive Environmental Conditions
7. Intended use (essential operating conditions)
8. Equipment to be used with
9. Any other pertinent information

NOTE: This is a general outline. Provide any other information that the procurement office may need including suggested sources.

The problem of really getting what you need or what you ordered is even more of a problem at the other end of the procurement chain. Seldom do receiving personnel have specifications to receive against. Normally, receiving the products is a cursory count of the quantity, but no spot check of weights or quality control.

Several months ago we were at a golf course when seed and fertilizer were delivered at considerable cost to the MWR activity. Prior to receipt of the shipment, none of the unlabeled bags were weighed to verify accuracy and the pallets of fertilizer were not even checked for bag and water damage. Subsequent to receipt, it was discovered that most of the shipment of seed and fertilizer had been subject to water damage. The activity now faces the problem of adjudicating the claim with the vendor and they also need the fertilizer now. The last we heard they had purchased a second

**Figure 8-12: Specifications define what you really want!**

shipment of seed and fertilizer and had refused to pay for the first. At any rate, they may end up paying for at least part of the goods twice.

Solutions to the problem are really rather easy to accomplish with a little management emphasis and follow-up. A good procurement SOP that details appropriate procurement and receiving procedures needs to be established and enforced at the activity level. The SOP, at a minimum, should provide procurement lead times, specifications required, specific procedures to request merchandise, and required steps to receive the merchandise. The procurement specifications should be fully documented. Figure 8-12 provides a general format for writing specifications. If management will spend at least as much time establishing what they want for supply items as they do for resale, the costs could be reduced or the value received increased.

## ADMINISTRATIVE ERRORS

Although we have included administrative errors under this section as a probable cause of increasing OOE costs, it probably would be more properly stated as causing misstatement of OOE costs. What normally happens is that the costs are over- or under-stated in one month and then offset in the other direction the next month. Let's look briefly at the types of errors that cause OOE to be stated incorrectly.

The first type of error is that expense goods are received and no receiving report is sent to NAF Financial Services. The supplies are used for their intended purpose throughout the month. Since no receiving report is submitted the cost of those supplies are not included on the income statement. When the invoice from the vendor arrives for payment, the error is discovered and the cost of the supplies is then charged to a later month. A second and similar scenario happens if the receiving report is submitted but processed in the wrong month.

The second type of administrative error involves misstating costs between two departments in the same activity. As an example both the food and bar department in a golf course use paper goods. All of the paper goods are purchased in the food department. For those goods that are shifted to the bar for use, a transfer of cost must be prepared from the food to the bar department. This is an extremely common problem for supply items. They are purchased against the administrative department and never really charged to the department that uses them to support operations.

A third problem, that is a combination of administration and operations, is when pre-paid inventory is not established when it should have been. Using pre-paid inventory allows the purchase of a large amount of supply items at one time in order to take advantage of favorable discounts or reduce procurement load.

When using this procedure, receiving of the merchandise is handled as usual, but the inventory (dollar amount) of expense goods is placed in a prepaid inventory account. At the end of the month these goods are inventoried just as we do resale merchandise. The value of the goods left on hand is obtained by extending the inventory at cost. The difference between the dollar value of the prepaid inventory and the ending inventory is charged to the activity as the expense cost for that month. This same procedure is followed month after month until the supplies are gone. If this procedure is not coordinated with NAF Financial Services and handled properly, income statement reporting can be skewed because of "ballooned" expenses in one month and none for ensuing months. The war story at Figure 8-13 illustrates what can happen.

As you can see from this example, not establishing a prepaid supply account skewed the financial reporting. In

**On 23 March the Guest House received a shipment of supplies which included soap, toilet paper, hand towels, bath towels, and bath mats. The total cost of this shipment was \$9,550. When this order was submitted billeting estimated that this supply would last about 8 months. Shown below are selected financial results when these costs were not established as a pre-paid expense. Several months history has been included for comparison.**

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>YTD</u>	<u>Budget</u> <u>YTD</u>
Total Revenue	\$11,457	\$12,300	\$10,321	\$54,789	\$54,350
Supplies Exp	\$ 459	\$ 642	\$10,497	\$17,319	\$ 7,800
Supply Exp %	4.0%	5.2%	101.7%	31.6%	14.3%

**Figure 8-13: Establishing prepaid inventory is important.**

fact, the real supply cost for the month of Mar should have been \$947 or 9.2% of revenue. Fortunately, it is not too late to correct the YTD data on the income statement by establishing the prepaid inventory in April.

As we look at solutions to these types of administrative problems, the single most important counsel we can provide is to pay close attention to the details of the operation. Ensuring that transfers are prepared and costed correctly, receiving reports are completed when needed, and prepaid inventory is established when required are all functions of effective management. You must develop good control systems and administrative procedures, train employees in their proper use and constantly spot check for compliance and accuracy. Attention to detail plus review of operational areas on a daily basis will probably alert you to lost or missing paperwork.

The administrative problems will only remain solved as long as they remain high on the manager's list of things which must be checked and reinforced. Employees, like management, would rather operate and take care of customers than do paperwork.

## **CHANGING THE WAY WE DO BUSINESS**

It may sound strange, initially, when we say "changing the way we do business" will increase OOE% or OOE dollars but, in fact, it may be cause for a very large change in costs when compared to previous periods. Sometimes the costs are increased as part of a specific revenue generating program, in the hope that revenue will increase as the program grows in popularity.

A simple example is a bingo program conducted at the recreation center. The program currently offers very small prizes and generates only marginal attendance. Management triples all of the prizes offered and adds a new \$ 500 jackpot. Initially the cost of bingo prizes increases drastically along with OOE%. Hopefully, with good marketing and word of mouth advertising, the revenue will more than offset the added costs and reduce the OOE% below the level obtained before the program was modified. A similar scenario can be painted for entertainment cost versus door charges or special party business in a number of different MWR activities.

Another business change that can increase OOE is the decision to lease or rent equipment rather than purchase it. This decision reduces depreciation while raising OOE. In theory the OOE should go up less than depreciation goes down.

The final business decision that may increase OOE is when to replace aging equipment. Often to keep depreciation at a lower level, you will decide to repair old equipment, thus increasing OOE, as opposed to buying new equipment and increasing depreciation.

In each of the cases cited above, the decision to increase OOE was made in anticipation of increased revenue or a reduction in another expense. These decisions should be supported by a hard analyses similar to that shown at Figure 8-14.

A similar type of analysis can be used to determine whether or not to repair old equipment or replace it. In this case, we balance the average repairs and maintenance costs against the depreciation and lost interest costs. Figure 8-15 illustrates this analysis. In this analysis, it makes more sense to purchase the new vehicle than to continue repairing the old one.

These types of analyses are a valuable tool when making decisions about how to reduce costs. Once they are used to make the decision, you must ensure that all of the estimates used are maintained. Sometimes the decision may have to be relooked again when new data becomes available. Take for example, the van discussed above in Figure 8-15. Had it been more economical to continue to repair that van rather than buy a new one, you would

**The Guest House currently owns the televisions in their 50 rooms, but since they need to be replaced, management is investigating the possibility of leasing them in the future. The quote for leasing a television is \$282 per year and includes maintenance. The cost to purchase the televisions is \$325 each. Maintenance on the previously owned sets averaged \$8.75 per month. Shown below is a comparison of the two options:**

Cost of Leasing (per month)	\$23.50
Cost of Owning the TV (per month)	
Depreciation (\$325/24)	\$13.54
Maintenance/Repair (per month)	8.75
Lost Interest (\$325 x 7.65% /12)	<u>2.07</u>
TOTAL COST OF OWNING	\$24.36

**Based on the analysis, the Guest House will save \$.86 per room per month.**

*Figure 8-14: Purchase versus leasing analysis.*

Your challenge is to review the trends monthly, identify any negative trend quickly, determine which GLAC(s) are causing the trend, and then apply the proper corrective action to bring the expense back within the planned level. To assist you in monitoring GLACS month to month either as dollars or as a percent of revenue, we have provided two self-explanatory worksheet formats at the end of the chapter.

- Other Operating Expenses by Percentage (Form 8-1)
- Other Operating Expenses in Dollars (Form 8-2)

Strong internal control systems are probably your strongest ally in controlling costs. Even if expenses are currently within the plan, check the control systems to make sure they are in place, because they will help keep Other Operating Expenses at the planned level.

need to monitor the actual repairs data month to month to ensure the \$175 cost was still a good figure. If that figure grew, then the analysis might need to be done again.

## SUMMARY

In this chapter, we defined Other Operating Expenses and the OOE% and discussed how they are used to monitor trends. We explored the types of Other Operating Expenses including Fixed, Variable, Discretionary, Nondiscretionary and Emergency. We pointed out that you must be familiar with the GLACs that comprise Total OOE and be able to identify each type of expense.

Understanding the types of expenses found in each GLAC is important because generally, fixed, emergency, and nondiscretionary expenses are not very “controllable” in the short run. Only those expenses that tend to be variable or discretionary can be decreased to counterbalance unexpected costs.

**Outdoor Recreation's cargo van is six years old. It is starting to show its age as repairs and maintenance have averaged \$ 175 a month over the past six months. A new van will cost \$8,100 but the dealer will allow a \$1,600 trade-in on the old vehicle. The expected life of the new van is 5 years. A monthly comparative analysis is shown below:**

Keeping the Present Van (Fully Depreciated)	
Repairs and Maintenance	\$175.00
Purchasing a New Van	
Depreciation (\$6,500/60 mo)	\$108.33
Lost Interest (\$6,500 x 7.65%/12)	<u>41.44</u>
TOTAL COST TO PURCHASE	\$149.77

**The activity will save approximately \$25.23 per month by purchasing the new vehicle.**

*Figure 8-15: Cost of Maintenance versus replacement.*

## CHAPTER WRAP-UP

### KEY POINTS

- Other Operating Expense is defined as the cost of operation not associated with Cost of Goods Sold or Labor that are consumed to provide a product or service to the customer.
- Total Other Operating Expenses are calculated by adding together the individual GLACs used to record the expenses. There are more than 70 different GLACs available for use.
- To be effective monitoring OOE you must be familiar with which GLACs are used to record which expenses.
- OOE is monitored using both absolute dollars and the OOE%. In general, we treat OOE as a variable cost and that is why the percentage is the most used method of monitoring trends.
- There are several different types of operating expenses. They are
  - Fixed—Do not change as use or revenue change.
  - Variable—Change proportionately with changes in use or revenue.
  - Discretionary—A required expense that can be postponed without a major impact to operations.
  - Nondiscretionary—A required expense that cannot be postponed.
  - Emergency—An unplanned expense which cannot be postponed.
- Determining the type of expense assists you with correcting negative trends. In the short run, you can only impact on variable and discretionary expenses.
- The formulas for calculating the OOE% and any individual operating expense are:

$$\text{OOE\%} = \frac{\text{OOE \$}}{\text{Total Revenue \$}} \times 100 \quad \text{Indiv Exp \%} = \frac{\text{Indiv Exp \$}}{\text{Total Revenue \$}} \times 100$$

- Because we use the OOE% to monitor Operating Expenses we must consider problems causing negative trends in both Total Revenue and OOE.
- The major causes for increases in OOE are:
  - Excessive Use (Poor Controls)
  - Increasing Costs
  - Cost Shifting from APF to NAF
  - Poor Procurement
  - Poor Administration of Expense Areas

### REVIEW QUESTIONS

1. Insurance expense is normally both a \_\_\_\_\_ and \_\_\_\_\_ type expense.

2. An unplanned expense that must be accomplished to keep the activity operating is an \_\_\_\_\_ expense.
3. The cost of roses given to each patron as a promotion for the Sunday Brunch is both a \_\_\_\_\_ and \_\_\_\_\_ type expense.
4. The best way to monitor Other Operating Expenses is to use absolute dollars.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
5. The decision to lease or buy equipment must consider the cost of lost interest.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
6. Pre-paid inventory allows you to prorate the cost of expenses over the year equally.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
7. A \_\_\_\_\_ of \_\_\_\_\_ is required to use NAF dollars to purchase an item that is authorized for purchase from APF.
8. Given the following information, calculate the OOE%:  

Sales	\$13,450
OOE	7,400
Total Revenue	40,234
Other Income	3,456
9. Using the information above, calculate the Supplies Expense % if the cost of supplies was \$2,456.

MONITORING OTHER OPERATING EXPENSE (BY PERCENT)													
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	YTD
REVENUE													
OTHER OPERATING EXPENSE ITEMS													
TOTALS													

Form 8-1: Other Operating Expense by Percentage

MONITORING OTHER OPERATING EXPENSE (IN DOLLARS)													
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	YTD
REVENUE													
OTHER OPERATING EXPENSE ITEMS													
TOTALS													

Form 8-2: Other Operating Expense in Dollars



# Chapter 9

## Analyzing Other Expense

**Applied Financial Planning**

# Chapter 9

## Analyzing Other Expense

Other Expense is the final next to the last expense line reported on the income statement. It is reported at line 6b in the summary income statement format. This total reports the amount of expense incurred from other than operational sources.

In this chapter we will explore the definition of Other Expense (OE), its causes or sources, trend identification, how to monitor those trends, and finally, how to determine the causes of negative OE trends. Once causes are identified we will discuss management strategies to avoid or “fix” problems.

Just as in the chapter that reviews Other Income, the techniques and analyses will be somewhat less complex than with other types of expenses. The reason for less complexity lies in the fact that there are very few sources of other expense, they are much less frequent, and most of them are experienced only at the fund level. As an example, GLAC 832—Loss on Close of Business Location is used only when a business activity is closed at a loss. Hopefully, this is not an everyday occurrence.

### DEFINITION OF OTHER EXPENSE

Other Expense is defined as expenses incurred from other than normal operations. In other words, none of these expenses are a direct result of conducting the normal “business” of the program or the fund. They are expenses incurred from selling assets, foreign currency transactions, closing locations, and supporting isolated unit funds and reserve components.

### CALCULATING OTHER EXPENSE

There are only seven different 800 series GLACs which can be used to record Other Expense. These GLACS are shown at Figure 9-1. Once the various GLACs that will be used by the program or fund are determine, Total Other Expense is calculated by adding the various accounts. Use of several different GLACs to record OE lets you track the sources of expenses directly from the income statement. In addition, use of these GLACs makes identifying negative trends easier.

Other Expense			
+ 826	Interest Expense	\$	50
+ 827	Loss or Gain on Disposal of Fixed Assets		70
+ 828	Loss or Gain on Foreign Currency Transaction		50
+ 830	Isolated Unit Dividend Expense		170
+ 831	Reserve Component Dividend Expense		50
+ 832	Loss on Close of Business Location		105
+ 850	Miscellaneous Expense		45
=	TOTAL OTHER EXPENSE	\$	540

To effectively monitor the income statement, you must understand the proper use of all of the GLACs that comprise Other Expense and ensure that those expenses are recorded correctly. Listed below are the GLACs that comprise OE with an explanation of their proper use.

*Account 826—Interest Expense.* This GLAC records the cost of interest and can only be used at the IMWRF level.

*Account 827—Loss or Gain on Disposal of Fixed Assets.* This GLAC is used to record a loss or gain

when the sale of the asset yields less or more income than the undepreciated value of the asset.

**Figure 9-1: Calculating other expense.**

*Account 828—Loss or Gain on Foreign Currency Transaction.* This GLAC is used to record a loss or gain in value between foreign and U.S. currencies. This account is used at the fund level only.

*Account 830—Isolated Unit Dividend Expense.* This account is used to record dividends paid to isolated unit funds that keep their own accounting records. This account is used at the IMWRF Administration, Department G1.

*Account 831—Reserve Component Dividend Expense.* This account is used to record the dividends reserved for or paid to Reserve Components. This account is used at the IMWRF Administration, Department G1.

*Account 832—Loss on Close of Business Location.* This account is used to record the costs associated with closing an activity. Record the loss to department G1 of the specific location being closed.

*Account 850—Miscellaneous Expense.* This account is used to record expenses that do not meet the criteria of any of the other accounts.

## HOW OTHER EXPENSE IS RECORDED

Other Expense is generally an isolated expense that is incurred and recorded only periodically. Only reserve component and isolated unit fund expense would be incurred regularly and only if the installation supports those types of units. Loss or gain on the sale of assets is recorded when the asset is sold. Loss on foreign currency is recorded when the transaction to buy or sell it is completed. In any case none of these transactions are part of the manager's daily routine. For that reason management at all levels must take great care to ensure that the proper documents are completed and the entries are made on the income statement.

Since single GLACs are used to record each type of Other Expense it is easy to check that proper entries are made and relate changes in Total Other Expenses back to the individual GLACs involved. Individual GLACs can be tracked from year to year or from month to month to help you determine the cause of increased expenses.

## HOW TO MONITOR OTHER EXPENSE

Other Expenses can be monitored in either absolute dollars or as a percent of Total Revenue. The most commonly used method is real dollars. As shown in Figure 9-2 a decrease in dollars over budget, the previous month, or the same month last year (whatever standard you are using) indicates a positive trend. Conversely, an increase shows a negative trend.

The second method used to monitor Other Expense trends is the percent of Total Revenue comparison. Figure 9-3 demonstrates the formula to calculate OE as a percent of revenue. Applying this formula to both the standard and current period data allows you to determine if expense percentages are increasing or decreasing. While it is easy to determine the direction the percentage is moving, it is somewhat more difficult to determine if the trend is positive or negative. The difficulty in determining the trend does not detract from its usefulness to management.

Other Expense Compared To A Standard		
o Decreasing Dollars	=	Positive Trend
o Same Dollars	=	Neutral Trend
o Increasing Dollars	=	Negative Trend

*Figure 9-2: Other expense trends.*

### The Other Expense Percentage

$$\text{Other Expense \%} = \frac{\text{Other Expense \$}}{\text{Total Revenue \$}} \times 100$$

**Figure 9-3: Calculating other expense as percent of total revenue.**

the percentages, we see that the OE% was reduced from 5.0% in FYX3 to 4.2% in FYX4. Unfortunately, the budget plan of OE% of 4.1% was not reached. As you can see from looking at the data defining the trend as positive or negative is difficult, but knowing that we are now spending 4.2 cents out of every dollar of revenue on other expenses is valuable information.

It was probably unreasonable to expect that the budget target could be achieved when the fund did not achieve its Total Revenue target. In addition, Other Expenses are generally fixed expenses which do not decrease when revenue decreases. This illustration points out that reductions in Other Expense dollars did not keep pace with the reduced Total Revenue. Whether or not this condition is serious or not is up to you to evaluate.

Figure 9-4 shows how this analysis might be valuable even though specifying the trend is difficult. In this illustration the Fort XYZ IMWRF shows a decreasing Total Revenue as well as decreasing Other Expense. They were able to reduce the Other Expense dollars below performance the previous year and the budget. On the other hand, the Total Revenue dollars increased over the previous year's performance but did not make the budgeted level. When we look at

### Other Expense as a Percent of Total Revenue Ft XYZ IMWRF

	Jan X3	Jan X4	Budget Jan X4
Other Expenses	\$ 7,500	\$ 7,000	\$ 7,380
Total Revenue	\$151,700	\$166,667	\$180,000
Other Exp %	5.0%	4.2%	4.1%

**Figure 9-4: Other expenses as a percent of total revenue.**

## FINDING CAUSES FOR NEGATIVE OTHER EXPENSE TRENDS

Once you identify a negative trend in Total Other Expense, the first step in analysis is to break the total into the various GLACs that comprise it. This step will allow you to determine which GLACs are out of tolerance and causing the overall trend. This analysis will not be particularly complex since each GLAC records only one type of expense.

Figure 9-5 illustrates the process of breaking Other Expense into the GLACs that comprise it. In this example, Total Other Expense has been fluctuating from month to month with a general upward trend. Review of the individual GLACs reveals that the fund is losing small amounts of money on currency exchange and revaluation, disposing of assets at a loss, and closing business activities. The \$700 expense for closing an activity or location

### Other Expense Analysis Month to Month Fort XYZ IMWRF

Acct/Desc	May	Jun	Jul	Aug	Sep
827 Loss on Disp Fixed Asset	\$ 230		\$ 750	\$ 660	\$ 1,220
828 Loss on Foreign Currency	550	350	450	570	300
832 Loss on Close of Business		5,000			2,000
850 Miscellaneous Exp	450	450	550	350	400
TOTAL OTHER EXPENSES	\$1,230	\$5,800	\$1,750	\$1,580	\$3,920

**Figure 9-5: Breaking OE into component GLACs.**

is the primary cause of the increasing expenses. In addition, you must look at why we are selling assets and more important why are we selling them at a loss. It may be positive if we are disposing of excess equipment that is no longer needed. The sale at a loss may be necessary if the equipment is old or in a poor state of repair.

The analysis above could be accomplished as a percent of Total Revenue instead of dollars. The percent of any Other Expense GLAC can be calculated as shown in Figure 9-6. Use of the percentage allows you to determine the relationship of the cost to the revenue.

The Other Expense GLAC Percentage				
Other Expense GLAC %	=	Other Expense GLAC \$	-----	x 100
			Total Revenue \$	

**Figure 9-6: Calculating an Other Expense GLAC as percent of total revenue.**

determine which GLAC(s) is causing the negative trend in Total Other Expense, we can look directly at what operationally increases the GLAC. This is an extremely straightforward analysis since each GLAC normally records only one type of expense entry. Figure 9-8 demonstrates a *sample* of the relationship between the negative trends, contributing GLACs, and the true causes.

Figure 9-7 converts the data from the analysis at Figure 9-5 to a percent of revenue. The advantage of preparing the analysis using percentages as opposed to dollars is that we are taking into consideration changes in revenue as well as expenses.

When analyzing Other Expense, it is seldom necessary to use the detailed analysis techniques and diagnostic tools we use for other expense lines. Once we

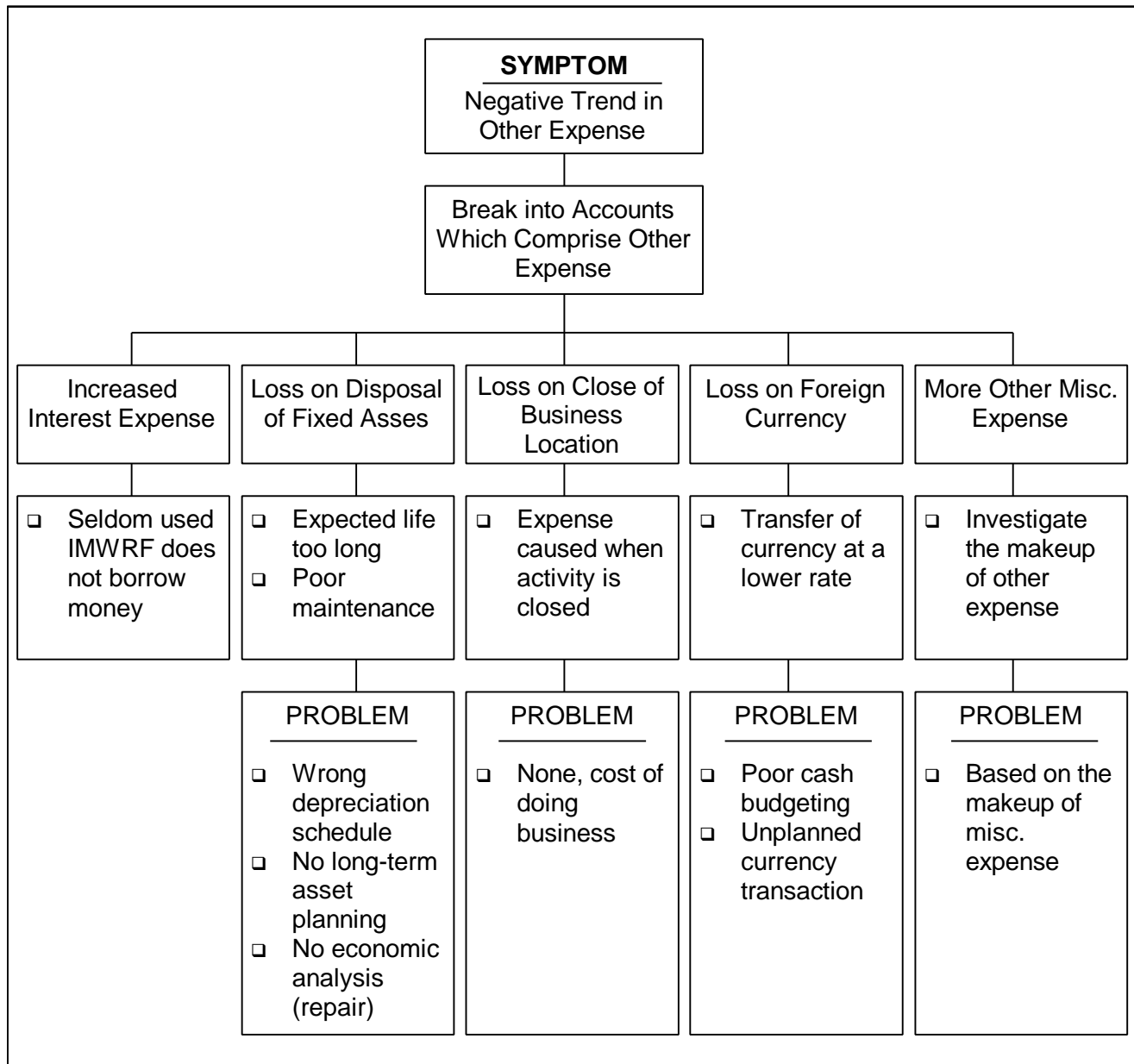
Other Expense Analysis—Percentages					
Month to Month Fort XYZ IMWRF					
Acct/Desc	May	Jun	Jul	Aug	Sep
827 Loss on Disp Fixed Asset	.3%		.7%	.7%	1.2%
828 Loss on Foreign Currency	.5%	.3%	.4%	.6%	.3%
832 Loss on Close of Business		4.5%			2.0%
850 <u>Miscellaneous Exp</u>	<u>4%</u>	<u>.4%</u>	<u>.5%</u>	<u>.3%</u>	<u>.4%</u>
TOTAL OTHER EXPENSES	1.2%	5.2%	1.6%	1.6%	3.9%

**Figure 9-7: Breaking OE into component GLACs using percentages.**

In the rest of the chapter we will explore commonly used GLACS and highlight the possible causes for negative trends. Armed with these possible causes, you should be able to review the activity or location, determine the real causes, and strategize to reverse the trend.

## INTEREST EXPENSE

This account would be used to record the cost of borrowing money. An increase in this expense would indicate that the fund or location had borrowed more money or the interest rate had increased. Currently, the IMWRF does not borrow money and this account is seldom used.



*Figure 9-8: Causes for increased Other Expense.*

## **LOSS OR GAIN ON DISPOSAL OF FIXED ASSETS**

Increasing expenses in this GLAC can be caused by three different problems—selecting the wrong asset to purchase, choosing the wrong depreciation schedule, or poor maintenance. We will explore how each of these problems can cause an increase on loss at disposal and possible methods to reduce their impact in turn. While exploring these cause we must bear in mind that the fund is not in business to sell items at either a profit or a loss. For that reason, you should focus on eliminating excess equipment regardless of the cost involved. All real management effort should be directed at action which will keep the fund from having to dispose of property early in the future.

In the event that the sale of the asset generates more income than the undepreciated value of the asset, that income will be recorded as a gain on the disposal of fixed assets. Since GLAC 827 is an expense account, it would “normally” have a positive balance and be a reduction to the revenue shown on the income statement. If assets are sold at a “gain” during a specific period they will be entered in GLAC 827 as “contra-expenses” and reduce the cost of operating during the period. Using this recording technique it is possible that GLAC 827 might have a negative balance for a given period and serve to decrease other expenses.

### **Selecting the Correct Asset to Purchase**

Obviously hindsight is the best answer to this problem, but often poor planning in the capital budget and execution allows the purchase of the wrong equipment or asset. When the asset is received, it is either quickly discarded because it can’t be used or does not function as intended. It is surprising as we travel around the MWR world the number of installations that have sad but expensive stories about equipment that couldn’t be used because it was too big to fit in the door or required a source of power not available. Often mistakes of this nature are caused by poor initial specifications, substitutions in the procurement process, and a general “it’s not my problem” attitude by management.

The solution to this problem is a well developed 5-Year Plan. By ensuring that the activity plan is integrated with the installation plan, you are assured that you will not get caught in mission changes which create instant equipment obsolescence. By doing your homework before submitting purchase requests to the procurement office, you reduce the chance that the wrong thing will be ordered. You must take advantage of professional consultants, trade publications, and vendor trade shows to determine the correct item for procurement. Using these sources, you must develop definitive specifications which will be provided to the procurement office. Lastly, you must remain in the procurement process as an advisor throughout, approving substitutions and consulting with procurement as required. Those managers who abdicate are often those that get the wrong asset.

### **Choosing the Proper Depreciation Schedule**

If we choose to depreciate assets at the longest allowable depreciation time, we are likely to find that the equipment has worn out and must be sold before its value is written to “zero” on the income statement. This is probably the largest cause for assets sold at a loss.

Figure 9-9 highlights the impact of selecting the best depreciation schedule. In this example, if you selected four years, the cost of the vehicle is slightly overstated each year. If management selects 5 years, the costs are stated correctly. Lastly, if you select six years, costs will be understated in years 1 through 5 and then a large adjustment is required when the vehicle is sold. The key issue pointed out by this analysis is that while it is best to choose a depreciation length that equals the actual usable life of the equipment, it is better fiscally to be conservative in choosing a schedule when there is doubt. In this case choose four or five—not six years.

### **Poor Maintenance**

The last factor which will contribute to loss on the sale of fixed assets is poor maintenance during the asset’s life. Generally, poor maintenance will reduce the usable life as well as reduce the residual value of the equipment at sale. You must establish regular preventive maintenance programs for equipment and ensure they are completed in a timely manner. Preventive maintenance and management follow-up will extend the useful life of the equipment.

This concludes our review of Loss or Gain on Disposal of Fixed Assets. The major point to remember is that selecting a conservative depreciation schedule will go a long way toward reducing loss on the sale of assets.

Outdoor Recreation plans to purchase a new vehicle for \$10,000. Management is not sure of the length of depreciation to use. The best guess is between 4 and 6 years. We will explore the cost of each of the three alternatives.

Depreciation Expenses for Each Alternative Is:

<u>Four Years</u>	<u>Five Years</u>	<u>Six Years</u>
\$10,000	\$10,000	\$10,000
----- = \$208/mo	----- = \$167/mo	----- = \$139/mo
48 months	60 months	72 months

Consider financial impact of each alternative if the vehicle actually lasts 5 years and is sold for \$500.

#### Four Years

- \* Depreciation overstated by \$41 (\$208 - \$167) for the first four years. Net income understated.
- \* No depreciation expense for the 5th year. Net income is overstated.
- \* Gain on Sale of Vehicle is \$500.

#### Five Years

- \* Depreciation stated correctly.
- \* Net Income stated correctly.
- \* Gain on Sale of Vehicle is \$500.

#### Six Years

- \* Vehicle has a book value of \$1,660 (\$10,000 - \$8,340)
- \* Received \$500 for sale of vehicle
- \* Loss on Sale of Vehicle is \$1,160 (\$500 - \$1,660)
- \* Depreciation understated by \$28 for four years.
- \* Net Income overstated by \$28 for four years.

*Figure 9-9: Selecting the correct depreciation schedule.*

## **LOSS OR GAIN OF FOREIGN CURRENCY TRANSACTION**

Loss on foreign currency usually indicates that the U.S. dollar is slipping in value against the currency of the other country although there are other ways the loss can be realized. While the IMWRF is not in business to make money by speculating in currency, prudent business practices should dictate that you review foreign currency requirements for a period of time (at least a month) and purchase the currency when the rate is most advantageous to the IMWRF.

As with Loss and Gain on the Disposal of Fixed Assets, if there is a gain from foreign currency transactions, that gain is recorded as a contra-expense. If this happens, GLAC 828 would have a negative balance and serve to reduce expenses for the period.

## **ISOLATED UNIT DIVIDEND EXPENSE**

The amount of this expense is dictated by MACOM policy and is outside the control of the local installation. For that reason we will spend no time attempting to analyze increases.

## **RESERVE COMPONENT DIVIDEND EXPENSE**

The amount of this expense is dictated by MACOM policy and is outside the control of the local installation. For that reason we will spend no time attempting to analyze increases.



## **LOSS ON CLOSE OF BUSINESS LOCATION**

Expenses recorded in this account are charged to the location that is being closed. As management, we will be able to identify when this account is used and creates a negative trend. Assuming all of the costs recorded to the account are correct, there will be little that you can do to reverse the negative trend.

## **MISCELLANEOUS EXPENSE**

The nature of the miscellaneous expense will dictate what course of action you can pursue if this GLAC shows a negative trend. The first step in the process will be to identify the specific expense recorded. Based on what these expenses are, there may be some ability to analyze the true cause and strategize to reduce the expense to an acceptable level.

All and all there are not a lot of management initiatives available to control negative trends in Other Expenses. Outside of the fixed asset and foreign currency transaction, most of the other expenses are uncontrollable.

## **SUMMARY**

Other Expenses must be analyzed just as other expense lines on the income statement. The major difference is that at the activity or program level, seldom will these accounts be used. Most of the activity in Other Expense will happen at the IMWRF level. In fact the only 800 series GLAC that will normally be used at the program or location level is Loss or Gain on Disposal of Fixed Assets.

In this chapter we defined Other Expense, reviewed the 800 series GLACs that comprise it with a particular emphasis on what may cause negative trends in these accounts. Since most of the sources of these expenses are nonoperational, we concluded that there is little direct action that you can take to reverse the trends. Only in the case of loss on disposal of fixed assets is there overt action that you can take to reduce costs.

Often fund level management will find that increases in Other Expenses are caused by uncontrollable policies or causes. This should not impact on efforts to identify negative trends and identify causes. The solutions to offset these expenses may ultimately be strategies to reduce expenses in some other controllable area or to increase income since there are so few strategies available to control Other Expenses.

## CHAPTER WRAP-UP

### KEY POINTS

- Other Expense is defined as expenses incurred from other than normal operations. These expenses are not generated directly from selling a product or service.
- Most of the GLACS that comprise Other Expense can be used only at the IMWRF level.
- The GLACS that comprise Other Expense are:
  - 826 Interest Expense (IMWRF)
  - 827 Loss or Gain on Disposal of Fixed Assets
  - 828 Loss or Gain on Foreign Currency Transaction (IMWRF)
  - 830 Isolated Unit Dividend Expense (IMWRF)
  - 831 Reserve Component Dividend Expense (IMWRF)
  - 832 Loss on Close of Business Location
  - 850 Miscellaneous Expense
- Total Other Expense is calculated by adding together all of the 800 series GLACs.
- Other Expense is, by its very nature, less periodic than other forms of expense. By the isolated nature of the expense it is also relatively easy to determine causes for negative trends.
- When a negative trend is discovered, determine which GLAC(s) contributed to the trend. Once the GLAC(s) are determined, look for the operational changes that caused the increase in expenses.

### REVIEW QUESTIONS

1. Most of the GLACs that comprise Other Expense can be used at the program and location level of the IMWRF.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
2. Expenses incurred when a business location is closed should be charged to the IMWRF overhead account, Department G1.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
3. It is best to choose the depreciation schedule that minimizes monthly depreciation cost.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

# Chapter 10

## Setting Depreciation at the Correct Level

**Applied Financial Planning**

## Chapter 10

### Setting Depreciation at the Correct Level

Depreciation is one of the most misunderstood and often disliked expenses found on the income statement. In the summary income statement format it is the last expense reported at line 7. Many managers feel that paying for the cost of assets, even over time, should not be charged to their activities. This general feeling evolved over time as more and more MWR activities completed major construction for much needed buildings or facilities. When these projects were completed, managers found depreciation expenses increased from a few hundred dollars per month to several thousand dollars per month. Even with these added expenses, they were being asked to generate the same net income with little or no price increase. A near Herculean task at best!

With this sad dilemma as a “real” war story we will define depreciation, consider the different types of depreciation, discuss “how depreciation is determined” and methods to control increasing costs. Most of the solutions for managing depreciation cost must by their very nature come before we purchase the fixed asset. This single premise is often forgotten or ignored until after the equipment is purchased. Unfortunately, with the purchase of the equipment comes the expense.

Although there is still much debate on whether we should depreciate the purchase of MWR equipment and facilities, and where that cost should be charged (particularly for major construction projects), we will assume in this manual that the policy will not change.

#### DEFINING DEPRECIATION

Depreciation is defined as a non-cash expense which allocates the cost of the asset over its expected useful life, and treats it as a cost of doing business. This specific definition highlights three points that are worth expanding upon. First, depreciation is a non-cash expense. In other words, we charge ourselves the expense on the income statement, but we do not reduce the cash in the bank by the amount of that expense. What we actually do is reduce the book value of the asset by the amount of depreciation expense each month.

Second, when we say that depreciation allocates the cost over the expected life of the asset, we acknowledge that the time frame is an estimate. Ideally when the asset was no longer useable at the activity or location, the book value would be at zero. As we have already discussed in the previous chapters we know that often the “expected life” is wrong, and we have an asset in use with no value (fully depreciated) or we have an asset that is no longer of use with an “expected value” still on the books. It is extremely important that you choose a realistic expected life which tends toward the conservative end of the scale when there is doubt.

Monthly Depreciation Cost For a Fixed Asset	
Monthly Depreciation Expense	$\frac{\text{Cost of Asset \$}}{\text{Expected Life(Months)}}$
<b>Example:</b> A car is purchased for \$10,000 and has an expected life of 5 years	
Monthly Depreciation Expense	$\frac{\$10,000}{5 \text{ yrs} \times 12}$
	$\frac{\$10,000}{60 \text{ months}}$
	$= \$ 166.67 \text{ per month}$

*Figure 10-1: Determining the monthly depreciation cost for a fixed asset.*

Last, the definition states that depreciation is a cost of doing business. As a cost of doing business we charge the depreciation to the activity or location using the asset to generate revenue or provide the service.

## CALCULATING DEPRECIATION COST

The depreciation cost of each asset is determined by the formula shown at Figure 10-1. The cost of the asset used must be the actual purchase price including discounts. The expected life of the asset is a management decision based upon how and where the asset is going to be used. AR215-5 provides a range of life expectancies from which you can choose the specific life for the asset. That table is reproduced at Figure 10-2 for your use.

The next question that is always asked is “should the depreciation for similar items at the same installation be the same?” The answer is no! The actual number of months within the range chosen for depreciation should be established by the operating manager and his/her chain of command. A couch that lasts three years in one MWR activity may last 5 years in another depending on use and maintenance.

When the individual asset is purchased, the depreciation schedule for that asset is established in NAFISS. At the end of each month the depreciation for each asset is combined with other assets in the same category to compute the individual GLAC totals. Using the example from Figure 10-1 above the \$166.67 is added to the depreciation of all other vehicles, aircraft and boats to arrive at the total for GLAC 854—Vehicles, Aircraft, and Boats Depreciation Expense.

Prescribed Ranges for Depreciation	
Asset Type	Life Expectancy
Buildings	15 - 40 Years
Building Improvements	10 - 30 Years
Furniture, Fixtures, & Equipment	2 - 10 Years
Vehicles, Aircraft, & Boats	2 - 7 Years
Land Improvements	15 - 25 Years
Livestock (Revenue Producing)	5 - 10 Years

*Figure 10-2: Ranges for asset depreciation.*

There are eight GLACs available in which to record the various types of depreciation expense. These GLACs generally categorize the types of depreciation based on the length of life expectancy. Total depreciation expense is calculated by totaling the GLACs used in the activity as shown at Figure 10-3.

Total Depreciation Expense		
+ 851	Building Depreciation Expense	\$ 2,300
+ 852	Building Improvement Depreciation Expense	1,900
+ 853	Furniture, Fixtures and Equipment Dep Exp	2,000
+ 854	Vehicles, Aircraft, and Boats Dep Expense	450
+ 855	Land Improvement Depreciation Expense	2,005
+ 856	Breeding Livestock Depreciation Expense	100
+ 857	Other Government Titled Fixed Asset Dep Exp	350
+ 858	Government Titled Buildings and Improvements Depreciation Expense	900
TOTAL DEPRECIATION EXPENSE		\$10,005

*Figure 10-3: Calculating total depreciation expense.*

Many people ask why we use so many different GLACs to record such a simple expense. Use of these different GLACs allows NAF Financial Services to segregate the accounts by length of depreciation schedule for book-keeping purposes. From a management perspective we can monitor categories of assets looking for increasing and decreasing trends. With very little work we can tell which type of assets are fully depreciated and where we

are investing for the future. For these GLACs to be of use, we must be familiar with what types of items are recorded in each. Below we have highlighted how each of the GLACs are used:

*Account 851—Building Depreciation Expense.* This GLAC is used to record the depreciation expense for buildings which are purchased with NAF and remain on the NAFI property books for maintenance and upkeep. This account is rarely used. Most NAF procured buildings are reflected in GLAC 858.

*Account 852—Building Improvement Depreciation Expense.* This GLAC is used to record the depreciation expense for Improvements made to a building with NAF and which remain on the NAF property books. An example of this expense would be an addition of 6 lanes to the bowling center.

*Account 853—Furniture, Fixtures and Equipment Depreciation Expense.* This GLAC is used to record the depreciation cost of equipment purchased with NAF which remain on the NAF property books for maintenance and upkeep. Examples of this equipment are tables, chairs, kitchen equipment and computers.

*Account 854—Vehicles, Aircraft, and Boats Depreciation Expense.* This GLAC is used to record the depreciation cost of all vehicles.

*Account 855—Land Improvement Depreciation Expense.* This GLAC is used to record all alterations to land that increase the value of the property. In general, after depreciation these improvement become part of the value of the land itself.

*Account 856—Breeding Livestock Depreciation Expense.* This GLAC is used to record the depreciation cost for livestock which is used in revenue generation. This would include breeding stock and stock used in conjunction with riding stables and other Outdoor Recreation programs.

*Account 857—Other Government Titled Fixed Asset Depreciation Expense.* This GLAC records the depreciation expense for assets purchased with NAF and then transferred to APF control for maintenance and upkeep.

*Account 858—Government Titled Buildings and Improvements Depreciation Expense.* This GLAC records the depreciation cost for buildings and building improvements originally purchased from NAF but transferred to APF control for maintenance and upkeep.

## **HOW TO MONITOR DEPRECIATION**

Depreciation Costs are monitored in terms of increasing and decreasing dollars as compared to a standard. The common standards used for comparison are budgeted depreciation cost, depreciation in the last several months and depreciation in the same period last year.

In previous chapters we have defined negative and positive trends as a method to monitor expenses. In the case of depreciation cost, it is easy to chart increases or decreases but nearly impossible to define an increase as a negative trend or a decrease as a positive trend. Since increases or decreases in depreciation are directly related to the purchase or sale of fixed assets and fixed assets are required in order to provide products and services, we will simply not attempt to define or monitor trends in the area of depreciation expense. Instead we will attempt to relate increases or decreases in depreciation directly to the specific events that cause them.

## HOW TO FIND THE REAL CAUSES

When changes in Total Depreciation (from the standard) are discovered, the first step in finding the cause is to determine which of the eight subordinate GLACs are causing the change. By breaking Total Depreciation into the accounts that comprise it, we can look for the individual GLAC that have changed. Figure 10-4 illustrates a typical analysis. In our example, GLAC 853—Furniture, Fixtures, and Equipment (FFE) Depreciation Expense has shown a sharp unplanned reduction over the last three months. On the other hand, GLAC 854—Vehicles, Aircraft and Boats Depreciation Expense has shown a planned increase.

Analyzing Depreciation					
Acct/Desc	Oct X3	Nov X3	Dec X3	Total YTD	Budget YTD
851 Building Dep	\$1,053	\$1,053	\$1,053	\$ 3,159	\$ 3,125
853 Furn, Fix & Equip Dep	2,900	2,870	2,450	8,220	8,700
854 Vehic, Acft, & Boat Dep	200	455	455	1,110	1,150
TOTAL DEPRECIATION	\$4,153	\$4,378	\$3,958	\$12,489	\$12,975

*Figure 10-4: Analyzing changes in the GLACs that comprise total depreciation.*

Our next step is to look at the potential causes and determine which was the real cause. This process is not very complex because most causes are related to the purchase/sale of assets or an adjustment in the depreciation schedule. All of these causes can be checked quickly through the asset records at NAF Financial Services. In our example, the increase in GLAC 854 was caused by the purchase of a replacement vehicle that was programmed in the CPMC budget as well as the annual operating budget. The FFE Depreciation Expense review of the asset records indicates that the activity is disposing of kitchen equipment.

The last consideration for us is “what does the cause indicate is happening operationally with the program?” In our example, why are we selling this kitchen equipment when it wasn’t planned? If we are selling the equipment because it is no longer needed to support the program, the reduction is positive. On the other hand, if the sale of the equipment is because the equipment has “worn out before its time,” it will have to be replaced and raise depreciation to a level probably higher than planned.

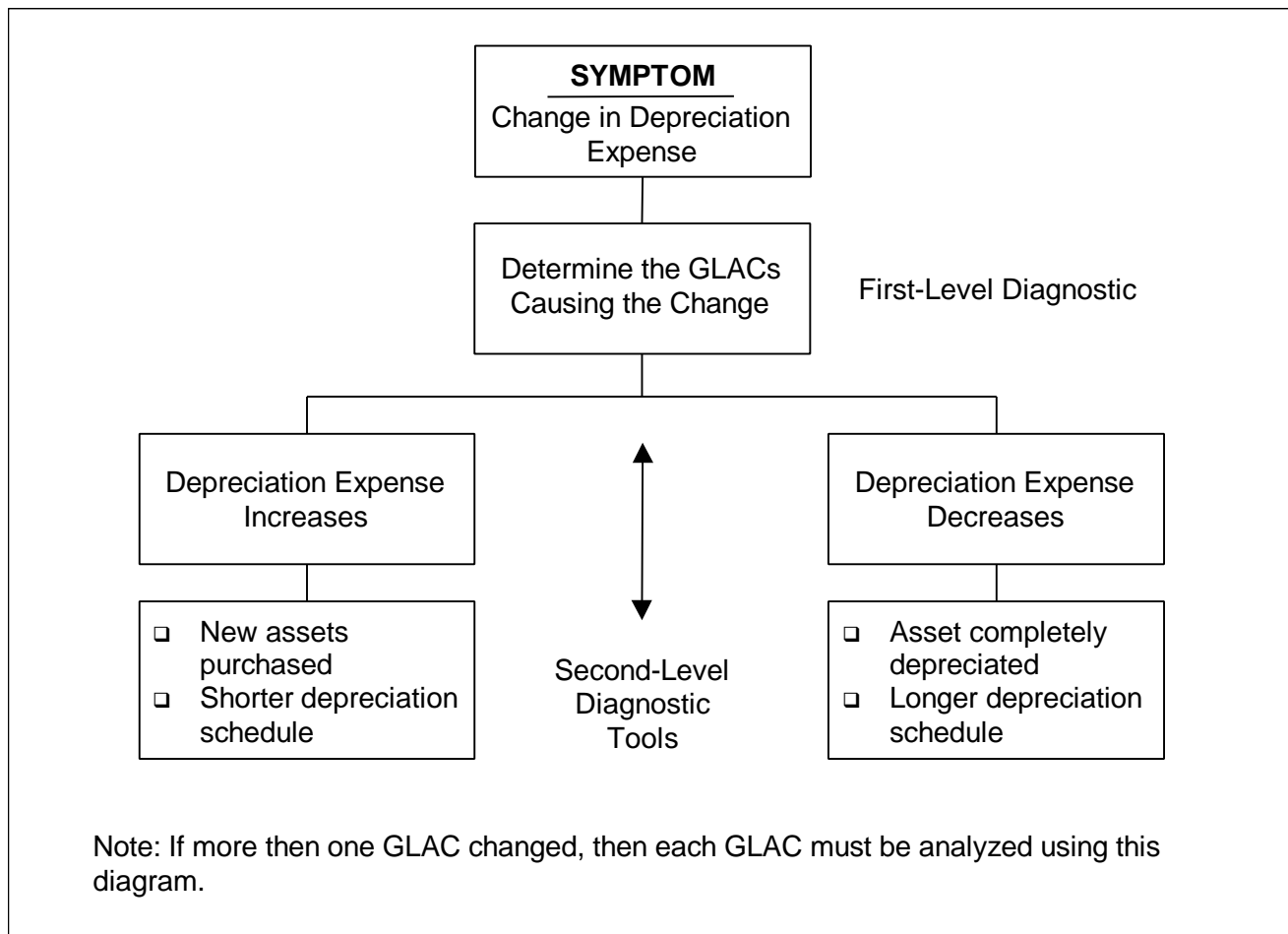
In Figure 10-5 we have attempted to highlight the potential causes for increases and decreases in depreciation. We will use this diagram as a road map for the remainder of the chapter. As we discuss the causes for these increases or decreases in depreciation, we will provide an overview of some of the operational considerations.

## CAUSES FOR INCREASED DEPRECIATION EXPENSE

The left column of Figure 10-5 reveals that are two causes for an increase in depreciation expense. We will review each of these potential causes in turn.

### Purchase of Additional Fixed Assets

When more equipment is purchased that qualifies as fixed assets, the depreciation cost will go up. If the value of the asset or a group of like assets exceeds \$1,000, it can be depreciated as opposed to charging the operating expenses for a single month. You choose a depreciation schedule, the monthly depreciation cost is calculated, and the Total Depreciation increases by that amount.



*Figure 10-5: Causes for increases or decreases in depreciation expense.*

An increase in depreciation expense is not a negative trend if it buys equipment to support the delivery of customer services. The purchase of the equipment should be a part of the 5-Year Plan and the Capital Purchase Budget. The point of emphasis here is that depreciation expense increases must be part of the overall equation when planning a modification to a MWR program.

### **The Depreciation Schedule is Shortened**

It is possible to change the length of time which an asset is depreciated over. If we shorten the time to write the asset to “zero,” the depreciation expense will increase. This action should be used when you have made a mistake estimating the length of time to depreciate the asset. If you realize early in the life of the asset that it will not last as long as originally estimated, you should request the depreciation schedule be reduced.

### **CAUSES FOR DECREASED DEPRECIATION EXPENSE**

Looking at the right column of Figure 10-5 reveals that there are three possible causes for a decrease in depreciation expense. We will review each of these potential causes in turn.



### **An Asset is Completely Depreciated**

When the depreciation schedule on an individual asset is completed, the asset has been written to “zero” value and the expense previously charged each month is no longer applied. If the asset is still usable, the activity gets its continued use with no monthly depreciation.

It is fortunate for the activity when an asset is fully depreciated and still usable. All and all the cost of doing business goes down. There is one inherent danger in using fully depreciated assets. While they may still perform their intended function, customers may very well perceive them as “shop worn” and ultimately, perceive the whole activity as less than desirable. You should certainly take advantage of assets that are fully depreciated and still useable, but you must also ensure that the overall appearance of the MWR activity meets customer expectations.

### **Fixed Assets Are Sold**

When fixed assets are sold, the remaining depreciation on the books is “written” off against the money received for the asset and the difference is recorded on the income statement as a gain or loss on the disposal of fixed assets. The sale of the asset reduces the monthly depreciation expense and increases income.

The sale of fixed assets is considered positive if those assets are excess to the needs of the MWR activity. Disposing of unneeded or “used up” assets reduces administrative controls and generally makes management of the facility less complex. On the other hand, if you are required to sell undepreciated assets because they are no longer usable, it is likely there will be a loss on disposal of the assets and increased depreciation when replacement assets are purchased.

You must attempt to maintain assets in serviceable condition for their planned period of use. Fixed assets should be surveyed periodically for serviceability and maintenance requirements. With a good preventive maintenance schedule, the useable life of most assets can be extended.

### **Depreciation Schedule Is Lengthened**

It is possible to change the length of time over which an asset is depreciated. If we lengthen the time to write the asset to “zero,” depreciation expense will decrease. This action should be used when you have made a mistake estimating the length of time to depreciate the asset. If you realize early in the life of the asset that it will last longer than originally estimated, they should request the depreciation schedule be increased. The key point here is that the depreciation schedule should not be changed to reduce costs, but only to adjust for a change in life expectancy.

### **SUMMARY**

This concludes our look at the possible causes for increase or decrease of Depreciation Expense. This expense is a cost associated with having the fixed assets to provide customer service. While the cost of having and using these assets (depreciation) should be monitored, most of the management focus must be on planning, maintaining, and controlling the fixed assets required to deliver customer services.

In this chapter we defined depreciation, explained how to select a depreciation schedule and calculate the monthly depreciation cost, and identified how to monitor changes in Total Depreciation. Finally, we explored the potential causes for increases or decreases in Depreciation Expense.

## CHAPTER WRAP-UP

### KEY POINTS

- Depreciation is defined as a non-cash expense which allocates the cost of the asset over its expected useful life.
- Depreciation is treated as a cost of doing business and is charged to the activity using the asset.
- The GLACs that comprise Total Depreciation are:
  - 851 Building Depreciation Expense
  - 852 Building Improvement Depreciation Expense
  - 853 Furniture, Fixtures and Equipment Depreciation Expense
  - 854 Vehicles, Aircraft, and Boats Depreciation Expense
  - 855 Land Improvement Depreciation Expense
  - 856 Breeding Stock Depreciation Expense
  - 857 Other Government Titled Fixed Asset Depreciation Expense
  - 858 Government Titled Buildings and Improvements Depreciation Expense
- Total Depreciation is calculated by adding together all of the accounts above that are used by the activity.
- Depreciation Expense is monitored based on increases and decreases in dollars as compared to a standard. While the standard is normally the budget, previous month depreciation and the depreciation for the same period last year are also used.
- The potential causes for increased Depreciation Cost are:
  - Purchase of Additional Fixed Assets
  - The Depreciation Schedule is Shortened
- The potential causes for decreased Depreciation Cost are:
  - An Asset(s) is Completely Depreciated
  - Fixed Assets are Sold (Disposed of)
  - The Depreciation Schedule is Lengthened

### REVIEW QUESTIONS

1. Lengthening the depreciation schedule is a technique that should be used to reduce Depreciation Expense.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

2. When an asset is fully depreciated, there is no longer a monthly depreciation charge recorded on the income statement.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

3. If the depreciation schedule is shortened, the monthly depreciation cost is smaller than it was previously.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
4. Since depreciation is a non-cash expense it has no real impact on net income.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
5. When purchasing a new asset, the Financial Management Division should establish the life expectancy.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
6. We should monitor depreciation as a percent of Total Revenue.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
7. The Depreciation Expense for a building built with NAF funds, but turned over to APF for maintenance and upkeep, would be recorded to GLAC \_\_\_\_\_ .
8. A vehicle was purchased for \$15,475. Using Figure 10-2, determine the monthly depreciation for the shortest and longest depreciation schedule allowed by AR 215-5.

# Chapter 11

## Monitoring Net Income (Loss)

Applied Financial Planning

## Chapter 11

### Monitoring Net Income (Loss)

The “Bottom Line” is often the first figure looked at by several levels of management when the income statement is received. Since the IMWRF was forced to become self sufficient under the “One Fund” concept achieving the Net Income (Loss) planned has become an important bench mark for managers to achieve. It is only when each manager reaches his or her target that the fund can remain self sufficient.

In this chapter we will define net income, discuss the techniques used to monitor it and review the steps that must be accomplished to improve performance if it is below the standard. Since Net Income is the residual left when all expenses are deducted from all revenues earned, the thrust of this chapter will be to steer you back to one of the ten preceding chapters to “fix” reduced revenue or increased expenses.

#### DEFINING NET INCOME (LOSS)

Net Income (Loss) is defined as the difference between Total Revenue and Total Expenses. If the figure is positive it is a Net Income and if the figure is negative it is a Net Loss. Figure 11-1 illustrates the accounting format we use to calculate Net Income. If you look carefully at this figure you will realize we have come full circle. This figure is the second presented in Chapter 1 of the manual. It is only fitting that it is one of the last presented as well.

As you can see from Figure 11-1, Net Income is a calculated amount totally dependent upon the relative value of the seven numbered lines. If the revenue goes down or expenses go up, Net Income will decrease.

#### HOW TO MONITOR NET INCOME (LOSS)

You should monitor Net Income (NI) in both absolute dollars and as a percent of Total Revenue. Consider for a minute the revenue and income data provided at Figure 11-2. This figure demonstrates why you need to monitor NI in terms of both dollars and as a percent of revenue. If we look at Activity X, the NI is down \$300 below budget, but due to lower than planned Total Revenue the NI % is .4% above budget. The trend here is mixed, but probably leaning toward negative since the activity has \$300 less in NI to operate on in the future. On the other hand, if we look at Activity Y, the NI is \$200 above the budgeted level but the NI % is .4% below budget during the same period. Once again the trend is mixed, but in this case the activity has an additional \$200 above the planned level to operate with in the future. The point of emphasis is that while we monitor percentages and we would like to exceed the standard, we bank the dollars and any increase above the standard provides operating capital for the future.

Income Statement Format	
1. Net Sales	\$ 5,000
2. - Cost of Goods Sold	2,500
-----	
= Gross Income from Sales	2,500
3. + Other Operating Income	10,000
-----	
= Gross Income from Operations	12,500
4. - Labor	3,500
5. - Other Operating Expenses	2,000
-----	
= Net Income/Loss from Operations	7,000
6a. + Other Income	500
6b. - Other Expense	100
-----	
= Net Income/Loss before Depreciation	7,400
7. - Depreciation	400
-----	
= Net Income/Loss after Depreciation	\$ 7,000

Figure 11-1: Calculating net income (loss).

Net Income Analysis				
	ACTIVITY X		ACTIVITY Y	
	Budget	Actual	Budget	Actual
Net Income	\$ 5,000	\$ 4,700	\$ 5,000	\$ 5,200
Total Revenue	\$125,000	\$106,818	\$125,000	\$145,000
Net Income %	4.0%	4.4%	4.0%	3.6%

**Figure 11-2: Monitoring net income (loss).**

Before moving on we will revisit both of these methods of monitoring NI to ensure a complete understanding. When monitoring NI in terms of absolute dollars, an increase in dollars when compared to a standard is considered positive trend and a decrease is considered a negative trend.

The second method for monitoring income is comparing the NI % for the current period with a similar percentage calculated for the standard period. Figure 11-4 highlights the formula for calculating the NI Percent. In general, an increase in percentage is a positive trend while a decrease in the percentage is a negative trend.

## HOW TO FIND THE REAL PROBLEM

Since NI is the difference between all revenues and all expenses, the first step is to determine whether revenues or expenses are changing. Review revenue for decreases and expenses for increases because either of these trends will reduce NI. A simple analysis like the one shown at Figure 11-5 can determine which revenue decreased or which expense increased.

Trends in Net Income When Compared to a Standard		
Increase in Dollars	=	Positive Trend
Same Dollars	=	Neutral Trend
Decrease in Dollars	=	Negative Trend

**Figure 11-3: Absolute dollar trends.**

From an analysis like this one we can review revenues for decreases from the standard. When a negative trend is noted we would refer back to the previous chapter in the book which outlines how to correct the real problem. In our example, Other Operating Income is down \$2,500.

Net Income %		
Net Income %	=	$\frac{\text{Net Income \$}}{\text{Total Revenue \$}} \times 100$

**Figure 11-4: Calculating the net income percentage.**

Using the same analysis determine which expenses have increased and refer back to the components of total expenses (i.e., Cost of Goods Sold, Labor, Other Operating Expenses, and Other Expenses) as shown in previous chapters of the book to determine the real problem. In our example, Labor and Other Operating Expense are both up as a percent of Total Revenue.

The plan of attack on “fixing” NI should begin with bringing excess expenses under control first. If this does not produce the required revenue, look for methods to generate and sustain increased revenue. These strategies might include improving existing products and services or installing new products and services. If the required income is still not met, the last course of action is to increase prices for existing products and services. The order of implementing the strategy above is suggested because this order has the least impact on the customer.

## SUMMARY

This concludes our brief look at Net Income (Loss). The major point to remember is that NI is a dependent number which results from Total Revenue and Total Expenses. As these totals change so changes Net Income. If revenue increases and/or expenses decrease, then NI increases.

Net Income Analysis				
	Budget YTD		Actual YTD	
Sales	\$ 12,750		\$ 13,005	
Other Oper Income	13,700		11,200	
Other Income	<u>1,400</u>		<u>1,375</u>	
TOTAL REVENUE	\$ 27,850		\$ 25,580	
Cost of Goods Sold	\$ 6,375	50.0%	\$ 6,502	50.0%
Labor Cost	11,140	40.0%	10,832	42.3%
Other Oper Expense	3,342	12.0%	3,800	14.8%
Other Expense	<u>200</u>	<u>.7%</u>	<u>200</u>	<u>.8%</u>
TOTAL EXPENSE	\$ 20,857		\$ 21,334	
NET INCOME	\$ 6,993	25.1%	\$ 4,246	16.6%

*Figure 11-5: Which elements caused the reduction in net income?*

## CHAPTER WRAP-UP

### KEY POINTS

- Net Income (Loss) is defined as the difference between Total Revenue and Total Expenses. If the figure is positive it is Net Income and if the figure is negative it is Net Loss.
- We monitor Net Income (Loss) in terms of both absolute dollars and as a percent of Total Revenue. Absolute dollar comparisons are important because it is Net Income dollars that guarantee the future of the fund. On the other hand, use of Net Income % is useful because it relates the return on investment to the revenue which produced it.
- The Net Income % is calculated by dividing Net Income dollars by Total Revenue dollars and multiplying by 100.
- Negative trends in Net Income are indicated by either a reduction in absolute dollars or a reduction in Net Income %. When these trends are discovered, Net Income should be broken into its component parts to determine which one(s) caused the negative trend.
- Once the component(s) of Net Income which is contributing to the negative trend (either decreased revenue or increased expense) is identified we use the techniques discussed in the ten preceding chapters to identify the causes and suggest solutions.

### REVIEW QUESTIONS

1. Net Income (Loss) is calculated by subtracting \_\_\_\_\_ from \_\_\_\_\_.
2. A decrease in Net Income is caused by an increase in Total Revenue or a decrease in Total Expenses.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
3. A Net Loss is experienced when total expenses exceed Total Revenue.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
4. If Net Income is \$10,453 and Total Revenue \$350,407, calculate the Net Income %.
5. If Total Revenue is \$350,407 and total expenses are \$372,520, calculate the Net Income %.



# Chapter 12

## Managing Resale Inventory

**Applied Financial Planning**

# Chapter 12

## Managing Resale Inventory

The challenges that face managers with resale departments in their MWR program include determining the correct amount of inventory required to operate successfully. The dilemma lies in weighing the cost of having a enough inventory to meet the customers' needs, wants, and desires while minimizing inventory for increased efficiency and less risk of loss from obsolete stock or diversion. The ideal solution for stockage level lies somewhere between the maximum and minimum level of stock.

In this chapter, we will define inventory management, explore considerations which will dictate stockage levels, discuss techniques and standards used to monitor the level of stockage, and methods to improve inventory management standards.

### INVENTORY MANAGEMENT DEFINED

Inventory Management can be defined as the process by which you provide a variety of merchandise that meets customers needs and desires while safeguarding the fund's assets from theft, obsolescence and waste.

Some MWR activities establish inventory levels that are far in excess of the amount needed for normal day to day operations. With these high levels of inventory, the fund suffers loss of interest income and the individual program risks theft or spoilage of the merchandise. Additionally, the program faces the possibility that aged inventory can not be sold at all or must be reduced in price below cost to ensure a "quick" sale.

Other MWR activities set inventory levels that are too low for the customer base they support. Low levels of inventory may cause customer dissatisfaction when out of stock conditions exist and specific items are not stocked at all. In this case, you may be over controlling inventory and thus impacting heavily in the customer satisfaction arena.

### VALUING INVENTORY

We discussed how resale inventory is valued in Chapter 5 on Cost of Goods Sold. Before moving on, let's review our previous discussion. The total value of the inventory is determined by taking a physical count of each item and multiplying that count by the purchase price of each item. The totals obtained for each line item are then added together to yield the total inventory value.

The accuracy of the inventory value is dependent upon a correct inventory count and determining the proper cost price. The cost price used must include freight costs associated with the delivery of that resale item.

End of Month Inventory				
Outdoor Recreation has only four different items in the resale inventory. The total dollar value of the inventory is calculated as shown below.				
<u>Item</u>	<u>Unit of Issue</u>	<u>Unit Cost</u>	<u>Qty</u>	<u>Total</u>
Arrows	Ea	\$2.10	42	\$88.20
Lantern Wick	Ea	.23	187	43.01
Hooks (#7)	Dz	1.25	90	112.50
Fishing Rods	Ea	9.99	37	369.34
				\$613.34

Figure 12-1: Computing the cost of resale inventory.

## HOW TO MONITOR INVENTORY

You can use several methods to limit or control the value of inventory. We will discuss three types of control below, illustrate each of them, and describe their relative strengths and weaknesses.

### Total Dollar Value

The simplest method used to control the amount of inventory on hand is simply placing a dollar ceiling on the value of the inventory which can be stocked at any point in time. Figure 12-1 reviews how the total inventory value is calculated. When this system is used, the manager is charged with maintaining the dollar value below the control level at all times. In its simplicity is its strength. Once the ceiling is in place, it is easy to review. But likewise, in its simplicity lies the risk. Maintaining the correct dollar value of inventory presupposes that the manager has the intuitive or historical knowledge to spend the inventory dollars on the right items. Experience reveals that managers do not always have the knowledge required. In that case, inventory stockage is flawed with slow-moving items in some areas and out-of-stock conditions in others. Solving these types of inventory problems leads us to the next type of control system.

### Number of Units

A second approach to establishing inventory control is accomplished by implementing par stocks for each item. Rather than managing the dollar value of inventory, we are monitoring the number of units stocked. The par stock is the ideal quantity of merchandise required considering average use, delivery time, and a safety factor. Figure 12-2 illustrates how par stocks are established. The par stock calculation must be made for each line item in the inventory. Much of the math required to maintain and modify par stock levels is now accomplished with computers.

**Par stock levels can be established in many ways. Shown below is one formula that considers only use and order/ship time. A safety factor can be included if desired.**

#### Formula:

$$\text{Par Stock Level} = \text{Requisition Objective} + \text{Order Ship Time}$$

Where:

$$\text{Requisition Objective} = \frac{\text{Avg Use Per Month}}{\text{Inventory Turnover}} \quad \text{and}$$

$$\text{Order/Ship Time} = \text{Avg Daily Use} \times \# \text{ Days for Delivery}$$

#### Example:

Determine the par stock for #10 cans of pizza sauce.

Average Use / Month	120		
-----	-----	=	30
Desired Inv Turnover	4		
+	Order/Ship Time (5 days x 4 / day)	=	20
=	PAR STOCK LEVEL		50

*Figure 12-2: Establishing par stock.*

The advantage of using this method is that there is a specific level of stock for each item in the inventory, which should minimize out-of-stock conditions. In addition, this methodology allows the manager to include a desired inventory turnover ratio into the equation. The disadvantage of using this system is that it relates stock to historical use and prescribes stock levels without regard to dollars expended. As the number of lines of inventory increase, so will the dollar value of stock. While this method minimizes the risk of out-of-stock conditions, it does not relate the quantity of inventory to the actual amount of inventory that is being sold in a given period. The third control method looks globally at how much stock is on hand and relates it to what we are selling.

### Inventory Turnover Ratio (ITR)

This ratio tells the number of times the inventory was used within a given period—normally per month. This analysis compares average inventory on hand with the Cost of Goods Sold for the same period (see Figure 12-3). Simply explained, this ratio tells you how many times cost of goods used up the value of the inventory during the comparison period. The advantage of using a ratio to control inventory is that global standards can be developed. These standards are based on the type of merchandise you sell and allow managers to compare performance. The generally accepted inventory turnover standards, by category of merchandise, are shown at Figure 12-4.

Formula for Inventory Turnover	
Inventory Turnover	= $\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$
Where:	
Average Inventory	= $\frac{\text{Begin Inv} + \text{End Inv}}{2}$

Figure 12-3: Calculating inventory turnover.

The Inventory Turnover Ratio is calculated automatically by the NAFISS accounting system when the income statement is prepared and is available for each program that has retail sales. Based on availability alone, it has become the most used standard in MWR.

Monthly Inventory Turnover Ratio Targets			
IMWRF Total	1	:	1
Food or Beverage	1	:	1 minimum
Other Resale	.3	:	1

Figure 12-4: Inventory turnover ratio targets.

Each of the methods discussed above, are tools available to assist in controlling inventory. Often you must select more than one of these tools for use to ensure that inventory is controlled. When the total value of inventory continues to increase over time, all purchases of stock need to be balanced against the absolute dollar ceiling. Even when dollar ceilings are reached, individual items may be “out of stock.” In this case, you should apply the Par Stock technology to determine proper ordering quantities for needed

items. In addition, the Par Stock technology should be used to identify those items in an overstocked condition. Once the items are identified, strategies to “move” the items should be planned and implemented.

### IDENTIFYING INVENTORY PROBLEMS

Regardless of which of the three methods for monitoring inventory is selected, how they are used to determine problems is the same. In each case we look at the changes in inventory over time. This process, as you well know by now, is called trend analysis. Let’s revisit each of the methods used to monitor inventory and determine when a positive or negative trend exists.

## Total Dollar Value

If we choose total dollars as the method to monitor inventory, then we must determine whether the dollar value of inventory is increasing or decreasing from month to month and how it compares to the “ceiling” we have established. An increasing trend month to month, that has reached or exceeded the inventory “ceiling” established, is a negative trend and indicates that we are in an overstocked condition. In general, a declining trend in inventory is positive, provided we are still able to meet the customers’ needs. When total dollar value is used to monitor inventory for potential problems, a consistent value at a level that meets customer needs is the ideal world. Figure 12-5 illustrates an increasing dollar trend in inventory. In this example, the manager divided the total inventory into specific commodities in order to begin the process of identifying the causes of increasing inventory.

Before we move on to look at other trend analysis techniques a word of caution about using total dollar trends. This method certainly points out when too much or too little is invested in inventory, but used alone, it does not address whether or not the right products are in the inventory. By using the number of products and analyzing trends revealed, we get a much better handle on individual product problems.

## Number of Units

Applying the trend analysis concepts to the individual products on hand is a tedious process, at best, but provides the information needed to solve over and under stock problems. In the process of establishing par stock, the minimum and maximum stockage level of each product is established.

The first analysis step would be to determine items that over time have balances outside the established minimum and maximum quantities. When these particular products are discovered, individual causes should be determined. In theory, the only reason for over stock conditions should be the misapplication of the par stock equation. On the other hand, under stock conditions could be caused by large increases in customer demand in a short period of time or by misapplication of the par stock equation.

**This example shows the total value of inventory for an Arts & Crafts Center and then separates that inventory into commodities based upon the sub-programs. This information was gathered from the end-of-month inventory formatted by commodity group.**

### End-of-Month Inventory in Dollars

<u>Commodity</u>	<u>% of</u>		<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>% of</u>		<u>Avg</u>
	<u>Jan</u>	<u>Inv</u>							<u>Inv</u>	<u>Inv</u>	
Ceramics	2359	18.6	2973	2967	2732	2645	3436	3026	20.3		2,877
Fine Arts	2653	20.9	2475	2873	2521	2420	2430	2645	17.8		2,574
Photo	2120	16.7	2427	2315	2217	2312	2020	2520	16.9		2,276
Wood	3702	29.1	3820	3685	4237	4320	4470	4750	31.9		4,141
Lapidary	876	6.8	870	850	840	1440	1320	1220	8.3		1,059
Leather	999	7.9	955	936	900	920	710	710	4.8		876
TOTAL	12,709	100.0	13,520	13,626	13,447	14,057	14,386	14,871	100.0		13,802

**NOTE: This analysis shows a "by dollar" example. A similar analysis could be done by turnover ratio if we knew the Cost of Goods by commodity. The question for the manager is "should the woodworking inventory be increased?"**

*Figure 12-5: An increasing inventory trend illustrated.*

The second consideration in applying trend analysis techniques, would be individual products that fall in acceptable levels of stockage, but show no customer purchases over several months. These item should be identified as potential “dead” stock and merchandising techniques should be used to “sell off” these items. Once these items have been sold, they should be discontinued from stock.

### Inventory Turnover Ratio (ITR)

If ITR is the method used to monitor inventory, then we must determine whether the ratio is increasing or decreasing. An increasing trend is considered positive and indicates that less inventory is sitting on the shelf each month. Conversely, a decreasing trend is negative in that less inventory is used each month and the prospect that an overstocked condition exists is greater. Figure 12-6 shows an example where the Inventory Turnover Ratio is currently above the standard, but on a steady downward trend. Review of the feeder data reveals the value of the inventory is increasing and the cost of goods is decreasing.

Inventory Turnover Rate Arts and Crafts (Month to Month)			
Month	Inventory	Cost of Goods	ITR
January	\$ 12,709	\$ 8,753	.69
February	13,520	7,775	.58
March	13,626	7,073	.52
April	13,447	7,182	.53
May	14,057	7,001	.50
June	14,386	6,890	.48
July	14,871	6,433	.43

**Figure 12-6: Using inventory turnover ratio for trend analysis.**

they review either total dollars or ITR. At the same and micro-level, they look for individual product trends comparing par stock with actual. Based on that realization, we will follow the same plan of attack as we continue to investigate trends for the remainder of the chapter.

With the two previous methods we used only inventory data to determine the trend. When using, ITR we are considering both inventory and indirectly sales data. As an example, the value of inventory could stay the same month to month but the ITR is decreasing. This condition could exist as sales and the resulting cost of goods sold go down.

After considering the possibilities outlined above, you like most other managers, will probably decide that no single method of monitoring inventory is sufficient. Most managers choose to look at inventory from at least two or three perspectives. At the macro-level,

### FOCUSING ON SPECIFIC INVENTORY PROBLEMS

Once a negative trend in total inventory is discovered, the first step in further analysis is breaking the inventory down into its component parts or types of commodities. In order to achieve this step, you must have previously grouped items together that support various parts of the program. Figure 12-5 demonstrates an Arts and Crafts Inventory broken down into commodities which support sub-programs. The commodities that support a bar inventory might be liquor, beer, wine, and mix. A little thought would allow managers to identify similar commodities for most programs.

By identifying commodities first, you may be able to focus on the area causing the problem and not have to analyze every line item in the inventory. In order to use commodity inventory values as an interim tool for analysis, physical inventories must be listed and subtotaled by commodity. Likewise, it is helpful if Sales and Cost of Goods for each commodity can be isolated. If we refer back to the data provided at Figure 12-5, we can see that the inventory in Photography, Woodworking, and Lapidary increased during the past six months. Those commodities need to be reviewed first when looking at inventory. If we use this data as well as the sales and cost of goods data to calculate the ITR (See Figure 12-7), the focus will change slightly.

Inventory Turnover Ratio Arts and Crafts					
<u>Commodity</u>	<u>Avg Month Sales</u>	<u>Cost of Goods %</u>	<u>Avg Cost of Goods</u>	<u>Average Inventory</u>	<u>Turnover Avg Month</u>
Ceramics	\$ 2,444	80.4	\$ 1,965	\$ 2,877	.68
Fine Arts	1,517	80.4	1,220	2,574	.47
Photography	819	80.4	658	2,276	.29
Woodworking	210	80.4	169	4,141	.04
Lapidary	38	80.4	31	1,059	.03
Leather	66	80.4	53	876	.06
TOTAL	\$ 5,094	80.4	\$ 4,096	\$ 13,803	.30

**Figure 12-7: Inventory turnover ratio by commodity.**

This analysis tells us that overall for the period, the activity is meeting its targeted ITR of .3 to 1. It also reveals that Woodworking, Lapidary, and Leather inventories are extremely high based on current levels of sales. While Photography has increased, it appears to be about right based on the level of sales.

Based on the two analyses at Figures 12-5 and 12-7, you can focus attention on the areas of Woodworking, Lapidary, and Leather to determine the specific operational areas that might be causing the problems. Since in all cases the trend noted is low turnover, this review should look at number of lines stocked, par stock levels, alternatives to stocking (special order) and methods to control inventory.

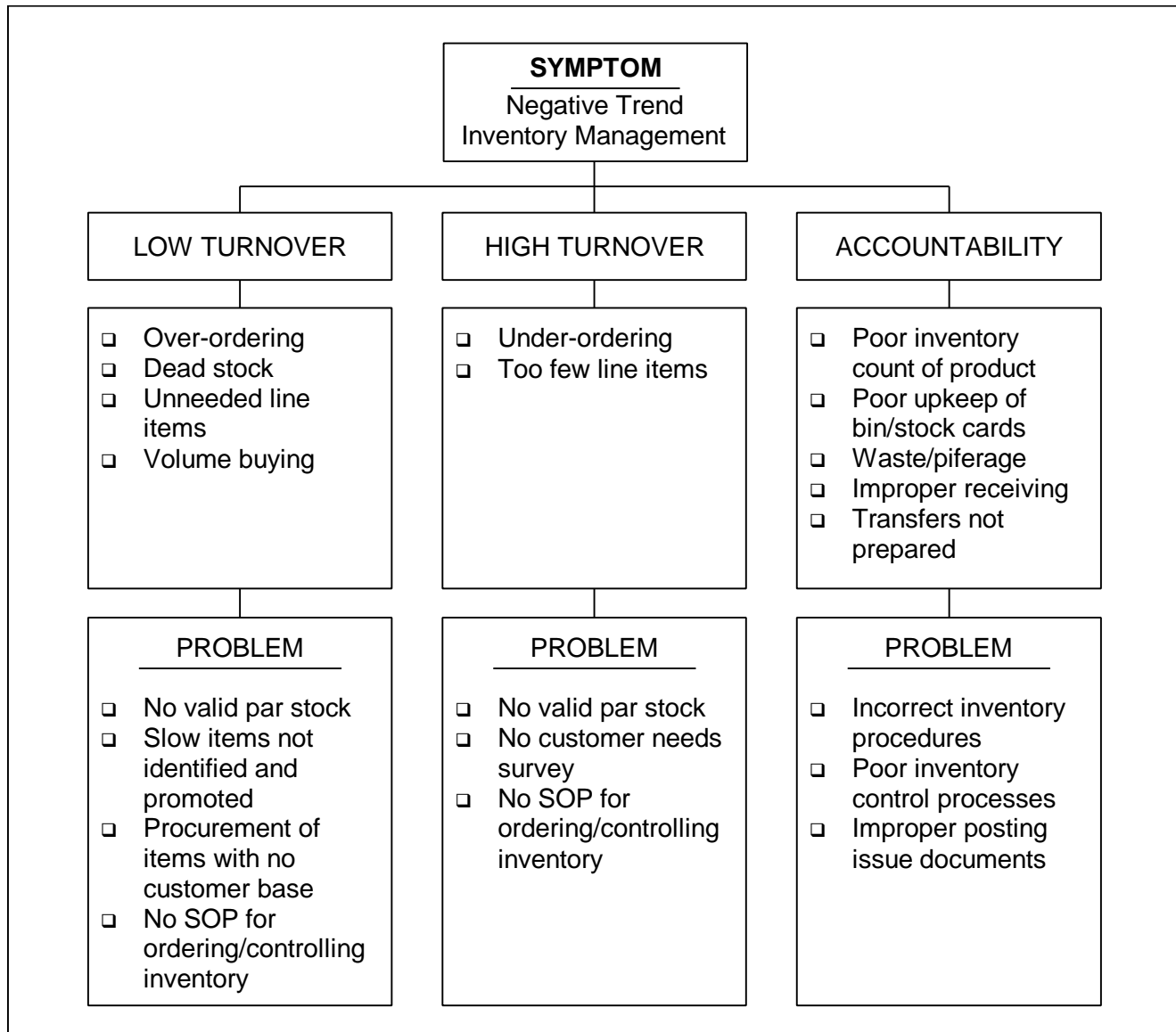
Figure 12-8 provides a graphic portrayal of a decision matrix which allows you to identify and fix inventory problems. For the rest of the chapter, we will discuss inventory problems in terms of low turnover, high turnover and accountability.

## LOW TURNOVER

Low turnover represents an over-investment in inventory based on the sales of that commodity. In general, there are four different problems that will cause this specific symptom. We will review each of these problems individually and explore potential solutions at the same time.

The first cause of low turnover is simply over ordering the amount of products from the vendor. The solution to this problem lies in ensuring that a good sales history is available via automated or manual stock record cards, par stocks are computed properly with appropriate safety levels, and merchandise orders are executed in the correct amount when the quantity on hand reaches the reorder point.

The second cause of low turnover is dead stock. When any significant portion of inventory is showing little or no customer demand, then turnover decreases. When specific commodities show a decrease in turnover, you should review the individual lines that comprise it, to identify those that show no customer demand. Once identified, marketing decisions must be implemented to “move” the merchandise and then these lines must be eliminated from stockage. Often, it is in our best interest to sell these items at a loss in order to eliminate them from the inventory quickly.



**Figure 12-8: Inventory management decision matrix.**

Over-expansion of the number of lines of inventory is a third cause of slow turnover. When we stock multiple name brands of the same product or similar products we tend to slow consumption. As an example, we might stock 25 different types of golf balls when 12 will satisfy 85% to 90 % of the market. The solution to this problem is being able to provide rapid special order services to satisfy the customer and still limit stockage. With overnight express services and other rapid shipping alternatives, this option has become more viable.

Special purchase “deals” are the final cause of low turnover. Many manufacturers and wholesalers provide discounts as an incentive to purchase larger quantities of merchandise. Often, the discount received for the purchase of larger quantities of product do not offset the interest loss to the fund when payment is made. An analysis, similar to the one shown at Figure 12-9, should be prepared before discounts are accepted. Even when the analysis is positive, we need to consider the chance of obsolescence. In the example, would you accept the discount?



Arts and Crafts	
Various types of photo paper are on special sale from our supplier (20% on orders over \$500). The dilemma is that it will take two years to use that quantity of paper	
<u>Cost of Goods Savings</u>	
20% x \$500 = \$100	
(Assuming no cost increase, net income would increase by \$100)	
<u>Lost Interest Income</u>	
7.65% x 500 x 2 = \$76.50	
(Assumes interest of 7.65% for 2 years)	
<u>Impact on the Fund</u>	
\$100.00	Reduced COGS
76.50	Lost Interest
\$ 23.50	Savings to Fund
<u>Other Factors</u>	
Risk of Product Deterioration	
Potential Theft	
Storage and Inventory Costs	

**Figure 12-9: The discount dilemma.**

enced, then you must increase the Safety Level in order to ensure that the product does not reach an out of stock condition.

## CUSTOMER SATISFACTION

Customer satisfaction is closely related to inventory management. Finding the proper mix between the number of lines of inventory, the quantity of a given product on hand, and minimizing the risk of loss due to diversion or obsolescence will constantly challenge managers who operate resale activities effectively. Unfortunately, there are no uniform equations which will guarantee the ideal mix. Customers will continue to seek expansion of product lines as new items are introduced into the market or a specific product becomes the fad. “Fads” on existing stock items will try your procurement system and create artificial increases in inventory when the fad fades.

Managers must constantly monitor resale trends associated with their program keeping in mind their customers and location. Since the focus of most of our resale activities is to support the program, we should probably select new items based on solid national trend surveys. We should consider deleting as many slow moving line items from our inventory as we add. Where items are a definite fad, we may need to artificially curtail the amount of stock requisitioned so that we are not stuck with large quantities when the fad wanes.

Protecting inventory from diversion or obsolescence, leads us to the last area we must discuss to close the loop on inventory management. Inventory accountability compares actual end of month counts with the quantities shown on inventory control documents.

Sometimes you can take advantage of the discount quantity by asking for the price over several deliveries. It is also possible to take advantage of a volume buy and then transfer the product to other activities on the installation.

## HIGH TURNOVER

High turnover indicates an under-investment in inventory based on sales of that commodity. In addition, the constant ordering required to maintain stock levels may place a greater than normal requirement on the procurement system, thus raising overhead cost for the fund. Two problems are the primary causes of this symptom.

The two causes for high turnover are related to stock-age level of the products offered for sale. When the stockage level is not set properly (too low) then replenishment must be accomplished more rapidly than normal. If the Safety Level is established at an incorrect level (too low), this allows the product to reach an out of stock condition before the receipt of replacement merchandise. Both of these problems can be fixed by correctly establishing and applying the Par Stock Equation discussed earlier in the chapter. If unusual increases in customer demand are experi-

## INVENTORY ACCOUNTABILITY

Regulatory guidance requires that a formal reconciliation between actual inventory counts and stock record documents be conducted at the end of each month. This reconciliation process guarantees that the usage data shown on the card is correct and points out potential accountability problems that must be reviewed. The accuracy of the usage data contained in the stock record document is extremely important, since it is the basis for future stockage and requisition decisions. On the other hand, investigation of inventory accountability problems allows you to correct administrative errors and/or identify “real” loss of product due to theft.

The starting point for the analysis is preparing the inventory overage and shortage listing shown at Figure 12-10. Once the product shortages or overages are identified, you must explain what caused them. The causes for overages or shortages can be divided into those that are administrative and those that are operational. For our purposes here, we will define “administrative” as problems caused by failing to prepare paperwork or preparing paperwork incorrectly. All other causes, we will term “operational.”

Bowling Center Over/Short Listing (Mar)					
Item	Unit		Record		
Description	Cost	Count	Bal	Diff	Value
12 lb Ball	19.99	5	4	+1	19.99
14 lb Ball	20.99	4	5	-1	-20.99
Shoes, (sz 8)	9.99	12	14	-2	-19.98
Shoes, (sz 9)	9.99	15	14	-1	- 9.99

*Figure 12-10: Inventory overage/shortage list.*

### Administrative Causes

**Cause 1—Posting Errors.** In this case, either receipts or issues are not posted to the control record, even though the proper documents are prepared and/or received along with the merchandise. This leaves the quantity on hand at the end of the month incorrect.

**Cause 2—Transfer Documents Not Prepared.** In this case, the product is moved to another department or activity, but the paperwork is not prepared. Since the document is not prepared the control record is not posted and the quantity on hand at the end of the month is not correct.

**Cause 3—Incorrect Inventory Count.** In this case, the error is made by the person counting or recording the inventory. Several possibilities exist. The count could be wrong, the right count could be entered against another line on the inventory, or the inventory count could be posted against a different line on the control record. In each of these cases the quantity posted on hand in the inventory does not equal the calculated control record balance.

In the case of most of these types of errors, diligent research should allow you to justify the discrepancies and adjust the balances on-hand for the next monthly accounting period.

### Operational Causes

**Cause 1—Waste.** In this case items are lost through spoilage or breakage. When the proper documentation is not completed, the merchandise is destroyed the end of month count does not match the control record balance.

**Cause 2—Pilferage.** In this case, items are taken by customers or employees and never posted to control records as sales. At the end of the month the inventory count is out of balance with the control record.

These types of errors are more difficult to justify and fix and are the real focus of having an internal control system. When we have eliminated all of the administrative type errors as causes, we must look at methods to control employees and customer theft. Solutions for theft revolve around increased awareness of risk and higher levels of vigilance by both employees and management. Excess stock must be secured in storerooms, point of sale controls must be strengthened to discourage shoplifting, and special employee sales procedures established to discourage diversion. Finally, if the problem is continuing, initiate periodic retail sales accountability.

Bowling Center Retail Sales Accountability 12 Sep 19XX						
<u>Item</u>	<u>Begin Inv</u>	<u>Rec'd</u>	<u>End Inv</u>	<u>Sold Inv</u>	<u>Sold Check</u>	<u>Variance</u>
Hot Dog	150	200	175	175	169	( 6 )
Snacks	250	0	100	150	152	2
Beer	700	0	200	500	475	( 25 )
Soda	1000	500	700	800	835	35

**Figure 12-11: Retail sales accountability.**

Retail sales accountability simply causes you to focus on overages and shortages on a daily or weekly basis rather than at the end of the month. By compressing the time from a month to a day there is a greater opportunity for the cause to be identified and the problem fixed. Take for example the sales accountability for the Bowling Center Snack Bar shown at Figure 12-11.

In our example, you can check to see if employees are recording soda sales as beer to cause the overage or shortage. At the same time, you can check to see if the missing hot dogs are being consumed by the staff. The implementation of this accountability system lets you find solutions and take action in a timely manner. With this type of attention, the inventory to sales variance can be quickly brought back into tolerance.

## SUMMARY

In this chapter we defined inventory management, reviewed how resale inventory was valued and discussed three different methods used to monitor the level of inventory on hand. With this information as a base, we demonstrated how trend analysis was used to determine problem areas in inventory management.

The results of the trend analysis were then reduced to one of the three major problems—low turnover, high turnover, or inventory accountability. In turn each of these problems were reviewed to determine potential causes and solutions.

In this chapter we explained Inventory Turnover Ratio, and revisited Retail Sales Accountability as a tool to assist with the control of inventory management. Given these tools, the mission of the resale activity, and the information presented in this chapter; managers should be able to correct problems and improve inventory turnover.

At the end of the chapter we have provided several forms which will assist managers who need to collect information to analyze inventory. The forms provided are:

- Inventory by Commodity (Form 12-1)
- Inventory Overage/Shortage Record (Form 12-2)
- Sales Accountability Format (Form 12-3)

## CHAPTER WRAP-UP

### KEY POINTS

- Inventory Management is defined as the process by which you provides a variety of merchandise that meets customers needs and desires while safeguarding the fund's assets from theft, obsolescence, and waste.
- The value of resale inventory is determined based on multiplying the physical count of the product by the cost price to determine the total value for each line item. All of the line items are then added together to compute the value of total inventory.
- We monitor inventory using one or more of the three techniques shown below.
  1. Total Dollar Value—Based on establishing a dollar ceiling for the total value of inventory.
  2. Number of Units—Based on establishing a minimum and maximum number of products for each line item of inventory. Computes a par stock for each item.
  3. Inventory Turnover Ratio—Based on computing the ratio of Cost of Goods to average inventory. Tells you how much of inventory is used to support sales in a given month.
- The formula for computing par stock is:

Par Stock Level = Requisition Objective + Safety Level

$$\text{Par Stock Level} = \frac{\text{Average Use Per Month}}{\text{Desired Inv. Turnover}} + (\text{Avg Daily Use} \times \# \text{ of Days for Delivery})$$

- The Formula for Inventory Turnover Ratio is:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}} \quad \text{Where:}$$

$$\text{Average Inventory} = \frac{\text{Begin Inv} + \text{End Inv}}{2}$$

- Inventory is managed using trend analysis techniques regardless of whether we use total dollar value, number of units or inventory turnover ratio to monitor inventory.
- There are three types of generic inventory problems:
  1. Low turnover
  2. High turnover
  3. Inventory accountability
- The causes of low turnover are:
  1. Over ordering

2. Dead stock
  3. Too many lines of product
  4. Buying quantity to reduce price
- The causes of high turnover are:
    1. Stockage level is set too low (requisition objective)
    2. Safety level is set too low
  - The causes of inventory accountability problems are either administrative or operational:
    - Administrative
      1. Posting errors
      2. Transfer documents not prepared
      3. Incorrect inventory count
    - Operational
      1. Waste
      2. Pilferage

## REVIEW QUESTIONS

1. An error in the physical count of resale inventory will cause an administrative error on Retail Sales Accountability.  
TRUE \_\_\_\_\_ FALSE \_\_\_\_\_
2. Which of the following is not a cause for inventory accountability problems?
  - a. Theft
  - b. Errors in posting the control records
  - c. Improper purchase request
  - d. Incorrect inventory count
  - e. None of the above

3. Which of the following factors should *not* be considered when establishing inventory stockage levels?
  - a. Location of the MWR activity
  - b. Customer needs and wants
  - c. Cost of inventory
  - d. Potential loss of inventory from obsolescence or theft
  - e. None of the above
4. Which of the following is a correct statement?
  - a. High inventory turnover decreases the workload in procurement.
  - b. Low inventory turnover can be caused by stocking 25 lines of inventory when fewer items will satisfy the majority of the customers.
  - c. Low turnover is caused by under investment in inventory.
  - d. High turnover is caused by over investment in inventory.
5. When monitoring inventory levels using the number of units and par stock as the method of control, you must have valid usage data in order to compute accurate stock levels.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

6. Simplicity of application is the most positive feature of using the Total Dollar Value method to monitor inventory.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

7. About one-third of the Bowling Pro Shop inventory should turn over every month.

TRUE \_\_\_\_\_ FALSE \_\_\_\_\_

8. Given the following information, calculate the ITR for the month.

Beginning Inventory	\$ 7,604
Ending Inventory	\$ 8,324
Sales	\$19,504
Cost of Goods Sold	\$10,123

Inventory by Commodity						
Month	Commodity 1 %	Commodity 2 %	Commodity 3 %	Commodity 4 %	Commodity 5 %	TOTAL
October						
November						
December						
January						
February						
March						
April						
May						
June						
July						
August						
September						
TOTAL						
Average						

Form 12-1: Inventory by Commodity



[illegible]

Form 12-2: Inventory Overage/Shortage Record

[illegible]

**TAB A**

**Income Statement Format**

## DETAILED INCOME STATEMENT

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

GLAC Name	Month End	Y-T-D
301 Cash Sales	23,680.55	125,597.08
302 Credit Sales	1,845.15	13,592.55
306 Employee Discounts		44.00
AAA NET SALES REVENUE	25,525.70	139,145.63
COST OF GOODS SOLD		
Z1 Begin Inventory	20,478.57	18,625.76
401 Purchases	11,337.45	63,999.67
404 Transfers From Oth Loc/Dept	1,294.20	6,399.04
Z3 TOTAL AVAIL FOR SALE	33,110.22	89,024.47
414 Transfers To Oth Loc/Dept	1,294.20	6,399.04
416 Other Inventory Reductions		174.95
454 COGS - Resale Spoilage	119.81	864.61
456 COGS - Inv Shortage		34.80
Z4 Ending Inventory	20,553.95	20,553.95
Z5 TOTAL DEDUCTIONS	21,967.96	28,027.35
CAA COST OF GOODS SOLD	11,142.26	60,997.12
CAA % of Net Sales Rev (AAA)	43.65	43.84
Z6 GROSS INCOME SALES	14,383.44	78,148.51
INCOME FROM OTHER ACTIVITY		
501 Service Income	25,790.65	89,760.21
503 Special Events	507.25	6,203.95
504 Rental / Usage Fees	2,437.00	11,613.50
508 Demonstration Resources/USA Inc	18,809.86	62,311.84
511 Cash Overage	37.65	136.96
523 Returned Check Service Charge Income	50.00	226.00
535 Lane Fees Income	1,471.50	6,215.50
536 Shoe Rental Income	113.50	451.00
538 Recyclable Material Inc(Grant Dis)	50,000.00	340,000.00
539 Amusement Mach Inc (Non-Concessionaire)	30.75	958.40
550 Consignment Income	133.85	1,130.11
599 Misc Other Operating Income	1.47	1,637.14
EAA TOTAL INCOME OTH ACT.	99,383.48	520,644.61
Z10 GROSS INCOME FROM OPERATIONS	113,766.92	598,793.12

See Footnotes - SMIRF Reports Menu

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Department of the Army CFSC - SMIRF

PCN: GW731P01

## DETAILED INCOME STATEMENT

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

GLAC Name	Month End	Y-T-D
OPERATING EXPENSES		
601 Salaries/Wages--US Empl.	50,390.46	206,137.16
603 Annual Leave--US Empl.	2,875.04	24,555.09
605 Sick Leave--US Empl.	2,054.27	6,883.55
607 Work.Comp.Ins.--US Empl.	641.12	2,675.58
611 Employer Share FICA	3,876.82	15,660.99
612 Employer Share Grp H/L Ins	6,625.37	29,172.22
613 Employer Share of Emp Retirement Plan	2,527.77	10,924.54
617 US Employee Bonus		1,000.00
620 US Unemployment Ins Expense	553.44	2,322.57
621 US Employee Comp Time	1,064.91	2,909.38
624 Other Benefits--US Empl.		137.75
626 Employer's Share of 401K Expense	839.94	3,446.14
GAA TOTAL LABOR	71,449.14	305,824.97
GAA % Of Total Revenue	57.20	46.35
726 Supplies	1,270.83	6,461.89
727 Laundry & Dry Cleaning	288.66	1,603.33
730 Communications	17.33	1,441.65
731 Freight	48.76	62.46
732 Travel		633.60
735 Advertising	(114.64)	591.36
736 Taxes & Licenses	20.83	104.15
739 Cash Shortage	19.87	141.17
742 Furniture & Equipment	1,834.47	4,713.69
743 Commercial Credit Card	229.27	1,078.48
744 General Entertainment	755.98	2,123.81
745 Special Events	68.00	348.89
747 Flowers and Decorations	476.27	2,962.26
748 Official Hosting		7.55
651 Manager's Expense		25.00
654 Resale Spoilage	119.81	864.61
656 Inv Shortage		34.80
657 Facilities Maint/Repair	20.00	47.93
658 Equip. Main/Repair	98.98	1,356.02
659 Vehicle Maint/Repair	66.97	924.44
669 Door Prize Expense	264.77	1,171.33
670 Sports Activities	4.09	4.09
671 Awards / Trophies		139.08
689 Payroll Service Expense	78.75	362.25
691 CDS/YA Meals and Snack Expense	1,320.02	6,867.40
692 Training Travel Expense	140.00	2,465.17
760 401K Administrative Surcharge Expense	65.20	275.74

See Footnotes - SMIRF Reports Menu

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Department of the Army CFSC - SMIRF

PCN: GW731P01

## DETAILED INCOME STATEMENT

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

GLAC Name	Month End	Y-T-D
799 Misc Oper Exp.		6,535.26
GAE TOTAL OTH OP EXP	7,094.22	43,347.41
GGG TOTAL OPER EXP	78,543.36	349,172.38
211 NET INCOME FROM OPERATIONS	35,223.56	249,620.74
OTHER INCOME		
OTHER EXPENSE		
KAE N.I.B.D	35,223.56	249,620.74
DEPRECIATION		
851 Buildings Depr. Expense	2,451.31	12,256.55
852 Bldg Improvement Depr.	2,695.09	13,475.45
853 Furn./Fixt/Equip./Depr.	4,768.19	22,028.06
854 Vehicles/Aircraft/Boats Depr.	8,243.16	40,426.90
855 Land Improvements Depr.	593.00	2,965.00
JAA TOTAL DEPRECIATION	18,750.75	91,151.96
EXTRAORDINARY ITEMS		
299 NET INCOME	16,472.81	158,468.78
299 % Of Total Revenue	13.19	24.02
28 TOTAL REVENUE	124,909.18	659,790.24

See Footnotes - SMIRF Reports Menu

# **TAB B**

**SMIRF Reports**

**TLMS Reports**

# SMIRF

<b>Budget vs. Actual Report</b>	This report compares the actual financial results with the budget for the month requested and includes the year-to-date results. Options include month, fund, location, program, and department.
<b>Summary Account Comparison Report</b>	This report provides comparative data over a period of six fiscal years for summary GLAC's. Options include month, fund, location, program, and department. It will also generate a graph for each line.
<b>Income by Month Report</b>	This report provides the fiscal year by month in a side-by-side format and includes all GLAC's used by the activity. Options include fund, location, program, and department.
<b>Pick a GLAC Query Summary</b>	This report provides monthly and year-to-date financial data on individual summary GLAC's. It also includes quarterly totals. Options include one GLAC or multiple GLAC's.
<b>Pick a GLAC Query Actual</b>	This report provides monthly and year-to-date financial data on individual actual GLAC's. It also includes quarterly totals. Options include one GLAC or multiple GLAC's.



Department of the Army CFSC - SMIRF  
 BUDGET vs. ACTUAL REPORT  
 Installation:  
 (1) MWR Fund  
 All Programs - All Departments  
 February 1999

ACCT DESCRIPTION	ACTUAL	%	BUDGET	%	VARIANCE (*UNFAV)	%	YTD ACTUAL	%	YTD BUDGET	%	YTD VARIANCE (*UNFAV)	%
AAA NET SALES	25,526	20	27,336	52	(1,810)*	7	139,146	21	133,930	22	5,216	4
CAA COST OF GOODS SOLD	11,142	44	10,416	38	726 *	7	60,997	44	51,898	39	9,099 *	18
26 GROSS INCOME SALES	14,384	12	16,920	32	(2,536)*	15	78,149	12	82,032	13	(3,883)*	5
501 Service Income	25,791	21	10,968	21	14,823	135	89,760	14	42,340	7	47,420	112
503 Special Events Income	507	0	0	0	507	0	6,204	1	0	0	6,204	0
EAA TOTAL OTHER OPERATING INCOME	99,383	80	24,882	48	74,501	299	520,645	79	478,358	78	42,287	9
210 GROSS INCOME FROM OPERAT	113,767	91	41,802	80	71,965	172	598,794	91	560,390	92	38,404	7
OPERATING EXPENSES:												
GAA TOTAL LABOR	71,449	57	59,252	113	12,197 *	21	305,825	46	294,774	48	11,051 *	4
GAE TOTAL OTHER OPERATING EXP	7,094	6	7,293	14	(199)	3	43,347	7	33,453	5	9,894 *	30
GGG TOTAL OPERATING EXPENSES	78,543	63	66,545	127	11,998 *	18	349,172	53	328,227	54	20,945 *	6
211 NET INCOME FROM OPERATIONS	35,224	28	(24,743)	47	59,967	242	249,622	38	232,163	38	17,459	8
OTHER INCOME:												
OTHER EXPENSES:												
KAE NET INCOME BEFORE DEPREC	35,224	28	(24,743)	47	59,967	242	249,622	38	232,163	38	17,459	8
DEPRECIATION:												
JAA TOTAL DEPRECIATION	18,751	15	17,537	34	1,214 *	7	91,152	14	87,685	14	3,467 *	4
212 N.I. BEFORE EXTRA ITEMS	16,473	13	(42,280)	81	58,753	139	158,470	24	144,478	24	13,992	10
EXTRAORDINARY ITEMS:												
299 NET INCOME (LOSS)	16,473	13	(42,280)	81	58,753	139	158,469	24	144,478	24	13,991	10
28 TOTAL REVENUE	124,909	100	52,218	100	72,691	139	659,790	100	612,288	100	47,502	8
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

Department of the Army CFSC - SMIRF  
 SUMMARY ACCOUNT COMPARISON  
 Installation:  
 (1) MWR Fund  
 All Programs - All Departments  
 YTD 1st Quarter

ITEM DESCRIPTION	FY94	FY95	FY96	FY97	FY98	FY99
NET SALES REVENUE	68,741	54,221	78,565	65,786	73,447	88,782
COST OF GOODS SOLD	25,632	19,379	32,946	27,777	32,772	39,088
TOTAL INCOME OTHER ACCOUNTS	150,290	186,318	374,339	309,016	264,732	395,900
TOTAL LABOR	84,295	109,704	137,536	110,167	134,528	178,738
TOTAL OTHER OPERATING EXPENSES	20,155	27,226	23,410	19,492	25,458	26,676
TOTAL OPERATING EXPENSES	104,450	136,929	160,946	129,659	159,987	205,414
TOTAL OTHER INCOME	3,863	2,394	5,807	0	0	0
TOTAL OTHER EXPENSES	0	0	9,132	0	0	0
NET INCOME BEFORE DEPRECIATION	92,812	86,624	255,688	217,366	145,420	240,180
TOTAL DEPRECIATION	23,738	26,297	29,193	40,636	46,198	54,008
NET INCOME	69,074	60,327	226,494	176,729	99,221	186,173
TOTAL REVENUE	222,894	242,932	458,711	374,802	338,178	484,682

Department of the Army CFSC - SMIRF  
 INCOME by MONTH REPORT  
 Installation:  
 (1) MMR Fund  
 All Programs - All Departments  
 Fiscal Year 1999

GLAC Name	Oct	Nov	Dec	Jan	Feb	Y-T-D
301 Cash Sales	27,102.98	24,157.19	27,600.38	23,055.98	23,680.55	125,597.08
302 Credit Sales	3,131.95	2,298.15	4,535.40	1,781.90	1,845.15	13,592.55
306 Employee Discounts	34.00	10.00				44.00
AAA NET SALES REVENUE	30,200.93	26,445.34	32,135.78	24,837.88	25,525.70	139,145.63
COST OF GOODS SOLD						
21 Begin Inventory	18,625.76	22,247.47	20,704.71	21,134.00	20,478.57	18,625.76
401 Purchases	17,527.50	11,956.00	12,808.69	10,370.03	11,337.45	63,999.67
404 Transfers From Oth Loc/Dept	1,570.45	1,183.33	1,333.39	1,017.67	1,294.20	6,399.04
23 TOTAL AVAIL FOR SALE	37,723.71	35,386.80	34,846.79	32,521.70	33,110.22	89,024.47
414 Transfers To Oth Loc/Dept	1,570.45	1,183.33	1,333.39	1,017.67	1,294.20	6,399.04
416 Other Inventory Reductions	81.25	93.70				174.95
454 COGS - Resale Spoilage	207.55	162.21	151.65	223.39	119.81	864.61
456 COGS - Inv Shortage				34.80		34.80
24 Ending Inventory	22,247.47	20,704.71	21,134.00	20,478.57	20,553.95	20,553.95
25 TOTAL DEDUCTIONS	24,106.72	22,143.95	22,619.04	21,754.43	21,967.96	28,027.35
CAA COST OF GOODS SOLD	13,616.99	13,242.85	12,227.75	10,767.27	11,142.26	60,997.12
CAA % of Net Sales Rev (AAA)	45.09	50.08	38.05	43.35	43.65	43.84
26 GROSS INCOME SALES	16,583.94	13,202.49	19,908.03	14,070.61	14,383.44	78,148.51
INCOME FROM OTHER ACTIVITY						
501 Service Income	15,274.55	26,732.02	14,720.69	7,242.30	25,790.65	89,760.21
503 Special Events	1,089.20	575.25	959.00	3,073.25	507.25	6,203.95
504 Rental / Usage Fees	2,561.50	3,484.00	978.50	2,152.50	2,437.00	11,613.50
508 Demonstration Res/USA Income		21,517.50	10,936.56	11,047.92	18,809.86	62,311.84
511 Cash Overage	30.00	21.86	23.05	24.40	37.65	136.96
523 Returned Check Service Charge Incom	71.00	50.00		55.00	50.00	226.00
535 Lane Fees Income	1,039.50	1,276.75	937.25	1,490.50	1,471.50	6,215.50
536 Shoe Rental Income	57.00	76.00	108.50	96.00	113.50	451.00
538 Recyclable Material Inc(Grant Dist)	290,000.00				50,000.00	340,000.00
539 Amusement Mach Inc (Non-Concessions)	65.40		762.05	100.20	30.75	958.40
550 Consignment Income	488.01	189.30	239.70	79.25	133.85	1,130.11
599 Misc Other Operating Income	23.65	1,293.02	319.00		1.47	1,637.14
EAA TOTAL INCOME OTH ACT.	310,699.81	55,215.70	29,984.30	25,361.32	99,383.48	520,644.61
210 GROSS INCOME FROM OPERATIONS	327,283.75	68,418.19	49,892.33	39,431.93	113,766.92	598,793.12
OPERATING EXPENSES						
601 Salaries/Wages--US Empl.	39,337.82	37,810.61	41,923.09	36,675.18	50,390.46	206,137.16
603 Annual Leave--US Empl.	2,731.44	9,881.06	4,518.30	4,549.25	2,875.04	24,555.09
605 Sick Leave--US Empl.	1,186.65	718.31	2,125.37	798.95	2,054.27	6,883.55



Department of the Army CFSC - SMIRF  
 INCOME by MONTH REPORT  
 Installation:  
 (1) MWR Fund  
 All Programs - All Departments  
 Fiscal Year 1999

GLAC Name	Oct	Nov	Dec	Jan	Feb	Y-T-D
607 Work.Comp.Ins.--US Empl.	491.87	481.55	538.59	522.45	641.12	2,675.58
611 Employer Share FICA	2,609.72	2,941.22	3,173.79	3,059.44	3,876.82	15,660.99
612 Employer Share Grp H/L Ins	5,563.27	5,239.88	5,558.70	6,185.00	6,625.37	29,172.22
613 Employer Share of Emp Retirement Pl	2,250.14	1,824.90	2,120.64	2,201.09	2,527.77	10,924.54
617 US Employee Bonus	800.00			200.00		1,000.00
620 US Unemployment Ins Expense	427.69	418.79	468.37	454.28	553.44	2,322.57
621 US Employee Comp Time	721.50	633.58	193.59	295.80	1,064.91	2,909.38
624 Other Benefits--US Empl.	81.25	56.50				137.75
626 Employer's Share of 401K Expense	626.74	610.37	672.52	696.57	839.94	3,446.14
GAA TOTAL LABOR	56,828.09	60,616.77	61,292.96	55,638.01	71,449.14	305,824.97
GAA % Of Total Revenue	16.67	74.23	98.67	110.83	57.20	46.35
726 Supplies	2,655.36	(1,720.93)	1,213.95	3,042.68	1,270.83	6,461.89
727 Laundry & Dry Cleaning	353.08	332.02	321.15	308.42	288.66	1,603.33
730 Communications	18.90	1,334.27	20.25	50.90	17.33	1,441.65
731 Freight	3.69		10.01		48.76	62.46
732 Travel	12.50	423.10	3.00	195.00		633.60
735 Advertising		58.00	138.00	510.00	(114.64)	591.36
736 Taxes & Licenses	20.83	20.83	20.83	20.83	20.83	104.15
739 Cash Shortage	28.90	17.65	46.05	28.70	19.87	141.17
742 Furniture & Equipment	3,199.06			(319.84)	1,834.47	4,713.69
743 Commercial Credit Card	201.34	208.34	209.08	230.45	229.27	1,078.48
744 General Entertainment	459.88		900.00	7.95	755.98	2,123.81
745 Special Events			45.00	235.89	68.00	348.89
747 Flowers and Decorations	1,776.06		40.00	669.93	476.27	2,962.26
748 Official Hosting		7.55				7.55
651 Manager's Expense			25.00			25.00
654 Resale Spoilage	207.55	162.21	151.65	223.39	119.81	864.61
656 Inv Shortage				34.80		34.80
657 Facilities Maint/Repair	22.89	5.04			20.00	47.93
658 Equip. Main/Repair	408.29	385.75	56.00	407.00	98.98	1,356.02
659 Vehicle Maint/Repair	518.78	52.20	6.87	279.62	66.97	924.44
669 Door Prize Expense	250.10	430.98	25.48	200.00	264.77	1,171.33
670 Sports Activities					4.09	4.09
671 Awards / Trophies	19.10		75.11	44.87		139.08
689 Payroll Service Expense	69.30	69.30	71.40	73.50	78.75	362.25
691 CDS/YA Meals and Snack Expense	1,018.79	1,472.88	1,075.52	1,980.19	1,320.02	6,867.40
692 Training Travel Expense		1,028.00		1,297.17	140.00	2,465.17
760 401K Administrative Surcharge Expen	50.58	49.95	54.37	55.64	65.20	275.74
799 Misc Oper Exp.	5,788.39	15.25	731.62			6,535.26
GAE TOTAL OTH OP EXP	17,083.37	4,352.39	5,240.34	9,577.09	7,094.22	43,347.41
GAE Oth OP Exp % of Total Revenue	5.01	5.33	8.44	19.08	5.68	6.57
GGG TOTAL OPER EXP	73,911.46	64,969.16	66,533.30	65,215.10	78,543.36	349,172.38
211 NET INCOME FROM OPERATIONS	253,372.29	3,449.03	(16,640.97)	(25,783.17)	35,223.56	249,620.74

Department of the Army CFSC - SMIRF  
 INCOME by MONTH REPORT  
 Installation:  
 (1) MWR Fund  
 All Programs - All Departments  
 Fiscal Year 1999

GLAC Name	Oct	Nov	Dec	Jan	Feb	Y-T-D
OTHER INCOME						
OTHER EXPENSE						
KAE N.I.B.D	253,372.29	3,449.03	(16,640.97)	(25,783.17)	35,223.56	249,620.74
KAE N.I.B.D % of Total Revenue	74.32	4.22	(26.79)	(51.36)	28.20	37.83
DEPRECIATION						
851 Buildings Depr. Expense	2,451.31	2,451.31	2,451.31	2,451.31	2,451.31	12,256.55
852 Bldg Improvement Depr.	2,695.09	2,695.09	2,695.09	2,695.09	2,695.09	13,475.45
853 Furn./Fixt/Equip./Depr.	4,155.79	4,155.79	4,229.96	4,718.33	4,768.19	22,028.06
854 Vehicles/Aircraft/Boats Depr.	8,037.49	8,037.49	8,172.80	7,935.96	8,243.16	40,426.90
855 Land Improvements Depr.	593.00	593.00	593.00	593.00	593.00	2,965.00
JAA TOTAL DEPRECIATION	17,932.68	17,932.68	18,142.16	18,393.69	18,750.75	91,151.96
EXTRAORDINARY ITEMS						
299 NET INCOME	235,439.61	(14,483.65)	(34,783.13)	(44,176.86)	16,472.81	158,468.78
299 % Of Total Revenue	69.06	(17.74)	(55.99)	(88.00)	13.19	24.02
Z8 TOTAL REVENUE	340,900.74	81,661.04	62,120.08	50,199.20	124,909.18	659,790.24
BUDGET						
KAE Budgeted N.I.B.D	249,237.00	(249,237.00)	217,121.00	39,785.00	(24,743.00)	232,163.00
KAE Budgeted N.I.B.D % of Revenue	76.44	77.50	48.87	35.75	(47.38)	37.92
KAE Budgeted N.I.B.D Variance	4,135.29	252,686.03	(233,761.97)	(65,568.17)	59,966.56	17,457.74
KAE Budgeted N.I.B.D Variance %	0.02	(0.02)	0.01	0.03	(0.09)	0.01
JAA Budgeted Total Depreciation	17,537.00	(17,537.00)	52,611.00	17,537.00	17,537.00	87,685.00
299 Budgeted Net Income	231,700.00	(231,700.00)	164,510.00	22,248.00	(42,280.00)	144,478.00
Z8 Budgeted Total Revenue	326,059.00	(321,589.00)	444,315.00	111,285.00	52,218.00	612,288.00

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Department of the Army CFSC - SMIRF

PCN: GW740P03

PICK a GLAC - From Summary

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

## Multi-GLAC Report

## Total GLAC: AAA - NET SALES REVENUE

BEG. BALANCE:	.00	1Q:	88782.05	3Q:	.00
YTD ACTIVITY:	139145.63	2Q:	50363.58	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	30200.93	30200.93	07	.00	.00
02	26445.34	56646.27	08	.00	.00
03	32135.78	88782.05	09	.00	.00
04	24837.88	113619.93	10	.00	.00
05	25525.70	139145.63	11	.00	.00
06	.00	.00	12	.00	.00

## Total GLAC: CAA - COST OF GOODS SOLD

BEG. BALANCE:	.00	1Q:	39087.59	3Q:	.00
YTD ACTIVITY:	60997.12	2Q:	21909.53	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	13616.99	13616.99	07	.00	.00
02	13242.85	26859.84	08	.00	.00
03	12227.75	39087.59	09	.00	.00
04	10767.27	49854.86	10	.00	.00
05	11142.26	60997.12	11	.00	.00
06	.00	.00	12	.00	.00

## Total GLAC: EAA - TOTAL INCOME OTHER ACCOUNTS

BEG. BALANCE:	.00	1Q:	395899.81	3Q:	.00
YTD ACTIVITY:	520644.61	2Q:	124744.80	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	310699.81	310699.81	07	.00	.00
02	55215.70	365915.51	08	.00	.00
03	29984.30	395899.81	09	.00	.00
04	25361.32	421261.13	10	.00	.00
05	99383.48	520644.61	11	.00	.00
06	.00	.00	12	.00	.00



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Department of the Army CFSC - SMIRF

PCN: GW740P03

PICK a GLAC - From Summary

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

## Multi-GLAC Report

## Total GLAC: GAA - TOTAL LABOR

BEG. BALANCE:	.00	1Q:	178737.82	3Q:	.00
YTD ACTIVITY:	305824.97	2Q:	127087.15	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	56828.09	56828.09	07	.00	.00
02	60616.77	117444.86	08	.00	.00
03	61292.96	178737.82	09	.00	.00
04	55638.01	234375.83	10	.00	.00
05	71449.14	305824.97	11	.00	.00
06	.00	.00	12	.00	.00

## Total GLAC: GAE - TOTAL OTHER OPERATING EXPENSES

BEG. BALANCE:	.00	1Q:	26676.10	3Q:	.00
YTD ACTIVITY:	43347.41	2Q:	16671.31	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	17083.37	17083.37	07	.00	.00
02	4352.39	21435.76	08	.00	.00
03	5240.34	26676.10	09	.00	.00
04	9577.09	36253.19	10	.00	.00
05	7094.22	43347.41	11	.00	.00
06	.00	.00	12	.00	.00

## Total GLAC: KAE - NET INCOME BEFORE DEPRECIATION

BEG. BALANCE:	.00	1Q:	240180.35	3Q:	.00
YTD ACTIVITY:	249620.74	2Q:	9440.39	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	253372.29	253372.29	07	.00	.00
02	3449.03	256821.32	08	.00	.00
03	-16640.97	240180.35	09	.00	.00
04	-25783.17	214397.18	10	.00	.00
05	35223.56	249620.74	11	.00	.00
06	.00	.00	12	.00	.00

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Department of the Army CFSC - SMIRF

PCN: GW740P03

PICK a GLAC - From Summary

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

Multi-GLAC Report

Total GLAC: Z8 - Total Revenue

BEG. BALANCE: .00

1Q: 484681.86 3Q: .00

YTD ACTIVITY: 659790.24

2Q: 175108.38 4Q: .00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	340900.74	340900.74	07	.00	.00
02	81661.04	422561.78	08	.00	.00
03	62120.08	484681.86	09	.00	.00
04	50199.20	534881.06	10	.00	.00
05	124909.18	659790.24	11	.00	.00
06	.00	.00	12	.00	.00



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Department of the Army CFSC - SMIRF

PCN: GW740P03

PICK a GLAC - From Actual

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

## Multi-GLAC Report

Total GLAC: 503 - Special Events Income

BEG. BALANCE:	.00	1Q:	2623.45	3Q:	.00
YTD ACTIVITY:	6203.95	2Q:	3580.50	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	1089.20	1089.20	07	.00	.00
02	575.25	1664.45	08	.00	.00
03	959.00	2623.45	09	.00	.00
04	3073.25	5696.70	10	.00	.00
05	507.25	6203.95	11	.00	.00
06	.00	.00	12	.00	.00

Total GLAC: 535 - Lane Fees Income

BEG. BALANCE:	.00	1Q:	3253.50	3Q:	.00
YTD ACTIVITY:	6215.50	2Q:	2962.00	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	1039.50	1039.50	07	.00	.00
02	1276.75	2316.25	08	.00	.00
03	937.25	3253.50	09	.00	.00
04	1490.50	4744.00	10	.00	.00
05	1471.50	6215.50	11	.00	.00
06	.00	.00	12	.00	.00

Total GLAC: 536 - Shoe Rental Income

BEG. BALANCE:	.00	1Q:	241.50	3Q:	.00
YTD ACTIVITY:	451.00	2Q:	209.50	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	57.00	57.00	07	.00	.00
02	76.00	133.00	08	.00	.00
03	108.50	241.50	09	.00	.00
04	96.00	337.50	10	.00	.00
05	113.50	451.00	11	.00	.00
06	.00	.00	12	.00	.00

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Department of the Army CFSC - SMIRF

PCN: GW740P03

PICK a GLAC - From Actual

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

## Multi-GLAC Report

Total GLAC: 539 - Amusement Mach Inc (Non-Concessionaire)

BEG. BALANCE: .00 1Q: 827.45 3Q: .00

YTD ACTIVITY: 958.40 2Q: 130.95 4Q: .00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	65.40	65.40	07	.00	.00
02	.00	65.40	08	.00	.00
03	762.05	827.45	09	.00	.00
04	100.20	927.65	10	.00	.00
05	30.75	958.40	11	.00	.00
06	.00	.00	12	.00	.00

Total GLAC: 654 - Resale Mdse Spoilage Break. &amp; Obs Exp

BEG. BALANCE: .00 1Q: 521.41 3Q: .00

YTD ACTIVITY: 864.61 2Q: 343.20 4Q: .00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	207.55	207.55	07	.00	.00
02	162.21	369.76	08	.00	.00
03	151.65	521.41	09	.00	.00
04	223.39	744.80	10	.00	.00
05	119.81	864.61	11	.00	.00
06	.00	.00	12	.00	.00

Total GLAC: 658 - Equipment Maint. &amp; Repair Expense

BEG. BALANCE: .00 1Q: 850.04 3Q: .00

YTD ACTIVITY: 1356.02 2Q: 505.98 4Q: .00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	408.29	408.29	07	.00	.00
02	385.75	794.04	08	.00	.00
03	56.00	850.04	09	.00	.00
04	407.00	1257.04	10	.00	.00
05	98.98	1356.02	11	.00	.00
06	.00	.00	12	.00	.00

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Department of the Army CFSC - SMIRF

PCN: GW740P03

PICK a GLAC - From Actual

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

## Multi-GLAC Report

Total GLAC: 659 - Vehicle Maint. &amp; Repair Expense

BEG. BALANCE:	.00	1Q:	577.85	3Q:	.00
YTD ACTIVITY:	924.44	2Q:	346.59	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	518.78	518.78	07	.00	.00
02	52.20	570.98	08	.00	.00
03	6.87	577.85	09	.00	.00
04	279.62	857.47	10	.00	.00
05	66.97	924.44	11	.00	.00
06	.00	.00	12	.00	.00

Total GLAC: 671 - Awards and Trophies Expense

BEG. BALANCE:	.00	1Q:	94.21	3Q:	.00
YTD ACTIVITY:	139.08	2Q:	44.87	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	19.10	19.10	07	.00	.00
02	.00	19.10	08	.00	.00
03	75.11	94.21	09	.00	.00
04	44.87	139.08	10	.00	.00
05	.00	139.08	11	.00	.00
06	.00	.00	12	.00	.00

Total GLAC: 691 - CDS/YA Meals and Snack Expense

BEG. BALANCE:	.00	1Q:	3567.19	3Q:	.00
YTD ACTIVITY:	6867.40	2Q:	3300.21	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	1018.79	1018.79	07	.00	.00
02	1472.88	2491.67	08	.00	.00
03	1075.52	3567.19	09	.00	.00
04	1980.19	5547.38	10	.00	.00
05	1320.02	6867.40	11	.00	.00
06	.00	.00	12	.00	.00



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Department of the Army CFSC - SMIRF

PCN: GW740P03

PICK a GLAC - From Actual

Installation:

(1) MWR Fund

All Programs - All Departments

February 1999

## Multi-GLAC Report

Total GLAC: 726 - Supplies Expense

BEG. BALANCE:	.00	1Q:	2148.38	3Q:	.00
YTD ACTIVITY:	6461.89	2Q:	4313.51	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	2655.36	2655.36	07	.00	.00
02	-1720.93	934.43	08	.00	.00
03	1213.95	2148.38	09	.00	.00
04	3042.68	5191.06	10	.00	.00
05	1270.83	6461.89	11	.00	.00
06	.00	.00	12	.00	.00

Total GLAC: 727 - Laundry &amp; Dry Cleaning Expense

BEG. BALANCE:	.00	1Q:	1006.25	3Q:	.00
YTD ACTIVITY:	1603.33	2Q:	597.08	4Q:	.00

Period	Month	Year-to-Date	Period	Month	Year-To-Date
01	353.08	353.08	07	.00	.00
02	332.02	685.10	08	.00	.00
03	321.15	1006.25	09	.00	.00
04	308.42	1314.67	10	.00	.00
05	288.66	1603.33	11	.00	.00
06	.00	.00	12	.00	.00

# TLMS

<b>Labor Cost Report</b>	This report provides a breakdown of labor costs by department and employee for one day or for any designated period.
<b>Scheduled vs. Worked Report</b>	This report lists the scheduled hours versus the actual hours worked individually by department for the period requested.
<b>Approaching Overtime Report</b>	This report shows the number of regular and overtime hours employees have worked during the selected week or scheduled pay period.
<b>Hours Scheduled By Time Slot</b>	This report lists the number of employees scheduled to work by the hour for a department for a period of time.
<b>Work Schedules Report</b>	This report lists all employee schedules by date, department, job, shift, and schedule times.

Fort Dawes  
Labor Cost Report

3/18/1999 thru 3/31/1999

Hours	Gross Cost	Adjusted Cost	Fringe	FICA	Total	Work Comp	Unemp Comp	Health	Life	Ann Leave	Retire	401K	COLA
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	47.20	0.00	3.61	50.81			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	47.20	0.00	3.61	50.81			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	0.00	0.00	3.61	3.61			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	47.20	0.00	3.61	50.81			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	47.20	0.00	3.61	50.81			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	47.20	0.00	3.61	50.81			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	7.68	3.67	59.35			0.00	0.00	4.80	0.96	1.92	0.00
8.00	47.20	47.20	0.00	3.61	50.81			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	0.00	0.00	3.61	3.61			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00
8.00	47.20	47.20	0.00	3.61	50.81			0.00	0.00	0.00	0.00	0.00	0.00
8.00	48.00	48.00	16.00	3.67	67.67			7.72	0.60	4.80	0.96	1.92	0.00

Fort Dawes  
Labor Cost Report  
3/18/1999 thru 3/31/1999

Hours	Gross Cost	Adjusted Cost	Fringe	FICA	Total	Work Comp	Unemp Comp	Health	Life	Ann Leave	Retire	401K	COLA
8.00	47.20	0.00	0.00	3.61	3.61			0.00	0.00	0.00	0.00	0.00	0.00
160.00	952.00	810.40	151.68	72.80	1,034.88	0.00	0.00	69.48	5.40	48.00	9.60	19.20	0.00
			60.97		60.97								
160.00	952.00	810.40	212.65	72.80	1,095.85	33.87	27.10	69.48	5.40	48.00	9.60	19.20	0.00
160.00	952.00	810.40	212.65	72.80	1,095.85	33.87	27.10	69.48	5.40	48.00	9.60	19.20	0.00
160.00	952.00	810.40	212.65	72.80	1,095.85	33.87	27.10	69.48	5.40	48.00	9.60	19.20	0.00





Fort Dawes  
Scheduled vs Worked  
3/18/1999 thru 3/31/1999

PIN	Name	Worked		Scheduled		Variance	
		Hours	Dollars	Hours	Dollars	Hours	Dollars
Department: 44G1 ADMIN							
39	AIKMAN, TROY A	80.00	896.80	80.00	472.00	0.00	424.80
47	ALLEN, LARRY H	77.00	924.00	80.00	480.00	-3.00	444.00
32	BECK, MARY R			80.00	600.00	-80.00	-600.00
57	CLAUS, SANTA G			80.00	520.00	-80.00	-520.00
29	HATCHETT, RAYMOND D			80.00	1,200.00	-80.00	-1,200.00
31	HESTER, ERIC A			80.00	640.00	-80.00	-640.00
30	KELLY, MIKE A			80.00	800.00	-80.00	-800.00
33	RITCHIE, STEVE A			80.00	780.00	-80.00	-780.00
28	SAMMONS, GARY S			80.00	1,584.00	-80.00	-1,584.00
Department Totals		157.00	1,820.80	720.00	7,076.00	-563.00	-5,255.20
Department: 8058 RENTALS							
63	MITCHELL, MELVIN A			80.00	671.20	-80.00	-671.20
65	SMITH, CHRISTINA V			80.00	1,263.20	-80.00	-1,263.20
Department Totals				160.00	1,934.40	-160.00	-1,934.40
Department: 80G1 ADMIN							
61	BOSTIC, ROBERTA L			80.00	571.20	-80.00	-571.20
60	HEILEIN, ROBERT A			80.00	1,314.40	-80.00	-1,314.40
62	HILLIARD, EUGENE F			80.00	460.00	-80.00	-460.00
Department Totals				240.00	2,345.60	-240.00	-2,345.60
Department: F373 CHILDCARE							
16	BOND, JAMES G			80.00	780.00	-80.00	-780.00
21	GREEN, ALBERT S			80.00	560.00	-80.00	-560.00
17	JACKSON, MICHAEL A			80.00	760.00	-80.00	-760.00
15	MARS, HELEN A			80.00	840.00	-80.00	-840.00
18	POPPINS, MARY A			80.00	720.00	-80.00	-720.00
20	WILLIAMS, JOAN M			80.00	560.00	-80.00	-560.00
Department Totals				480.00	4,220.00	-480.00	-4,220.00
Department: F37D FOOD PROG							
25	MAYS, WILLIE P			80.00	520.00	-80.00	-520.00





Fort Dawes  
Scheduled vs Worked  
3/18/1999 thru 3/31/1999

PIN	Name	Hours	Worked Dollars	Hours	Scheduled Dollars	Hours	Variance	Dollars
24	MEADOWS, GRETA K			80.00	640.00	-80.00		-640.00
Department Totals				160.00	1,160.00	-160.00		-1,160.00
Department: Y176 SOCIAL								
64	FISHER, RONALD H			80.00	640.00	-80.00		-640.00
10	HAWKINS, ROBERT A			80.00	720.00	-80.00		-720.00
6	MYERS, APRIL A			80.00	800.00	-80.00		-800.00
Department Totals				240.00	2,160.00	-240.00		-2,160.00
Report Totals		157.00	1,820.80	2,000.00	18,896.00	-1,843.00		-17,075.20

Fort Dawes  
Approaching Overtime Report  
For Period Ending 3/31/1999

rs id	Week 1					Reg Hrs Worked	Week2					Period		
	OT Hrs	Hrs Sched	Hrs Left	Schd OT	Hours Avail		OT Hrs	Hrs Sched	Hrs Left	Schd OT	Hours Avail	OT	Cost	
	0.00	40.00	0.00	0.00	0.00	38.00	0.00	40.00	2.00	0.00	0.00	0.00	0.00	
	0.00	40.00	0.00	0.00	0.00	32.00	0.00	40.00	8.00	0.00	0.00	0.00	0.00	
	0.00	40.00	0.00	0.00	0.00	37.00	0.00	40.00	3.00	0.00	0.00	0.00	0.00	
Report Total												0.00	0.00	



Fort Dawes  
Employees Scheduled By Time Slot  
Week Ending: 3/31/199

		Thu	Fri	Sat	Sun	Mon	Tue	Wed	Total
<b>Department: 44G1 ADMIN</b>									
0:00	1:00	0	0	0	0	0	0	0	0
1:00	2:00	0	0	0	0	0	0	0	0
2:00	3:00	0	0	0	0	0	0	0	0
3:00	4:00	0	0	0	0	0	0	0	0
4:00	5:00	0	0	0	0	0	0	0	0
5:00	6:00	0	0	0	0	0	0	0	0
6:00	7:00	1	1	0	0	1	1	1	5
7:00	8:00	1	1	0	0	1	1	1	5
8:00	9:00	1	1	0	0	1	1	1	5
9:00	10:00	1	1	0	0	1	1	1	5
10:00	11:00	1	1	0	0	1	1	1	5
11:00	12:00	1	1	0	0	1	1	1	5
12:00	13:00	1	1	0	0	1	1	1	5
13:00	14:00	1	1	0	0	1	1	1	5
14:00	15:00	1	1	0	0	1	1	1	5
15:00	16:00	0	0	0	0	0	0	0	0
16:00	17:00	0	0	0	0	0	0	0	0
17:00	18:00	0	0	0	0	0	0	0	0
18:00	19:00	0	0	0	0	0	0	0	0
19:00	20:00	0	0	0	0	0	0	0	0
20:00	21:00	0	0	0	0	0	0	0	0
21:00	22:00	0	0	0	0	0	0	0	0
22:00	23:00	0	0	0	0	0	0	0	0
23:00	23:59	0	0	0	0	0	0	0	0
<b>Department Totals: 44G1</b>		<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>45</b>

<b>Department: 8058 RENTALS</b>									
0:00	1:00	0	0	0	0	0	0	0	0
1:00	2:00	0	0	0	0	0	0	0	0
2:00	3:00	0	0	0	0	0	0	0	0
3:00	4:00	0	0	0	0	0	0	0	0
4:00	5:00	0	0	0	0	0	0	0	0
5:00	6:00	0	0	0	0	0	0	0	0
6:00	7:00	0	0	0	0	0	0	0	0
7:00	8:00	0	0	0	0	0	0	0	0
8:00	9:00	0	0	0	0	0	0	0	0
9:00	10:00	0	0	0	0	0	0	0	0
10:00	11:00	0	0	0	0	0	0	0	0
11:00	12:00	0	0	0	0	0	0	0	0
12:00	13:00	0	0	0	0	0	0	0	0
13:00	14:00	0	0	0	0	0	0	0	0
14:00	15:00	0	0	0	0	0	0	0	0
15:00	16:00	0	0	0	0	0	0	0	0
16:00	17:00	0	0	0	0	0	0	0	0
17:00	18:00	0	0	0	0	0	0	0	0
18:00	19:00	0	0	0	0	0	0	0	0



Fort Dawes  
Employees Scheduled By Time Slot  
Week Ending: 3/31/199

		Thu	Fri	Sat	Sun	Mon	Tue	Wed	Total
19:00	20:00	0	0	0	0	0	0	0	0
20:00	21:00	0	0	0	0	0	0	0	0
21:00	22:00	0	0	0	0	0	0	0	0
22:00	23:00	0	0	0	0	0	0	0	0
23:00	23:59	0	0	0	0	0	0	0	0
Department Totals: 8058		0	0	0	0	0	0	0	0

Department: Y17J SPORTS

0:00	1:00	0	0	0	0	0	0	0	0
1:00	2:00	0	0	0	0	0	0	0	0
2:00	3:00	0	0	0	0	0	0	0	0
3:00	4:00	0	0	0	0	0	0	0	0
4:00	5:00	0	0	0	0	0	0	0	0
5:00	6:00	0	0	0	0	0	0	0	0
6:00	7:00	0	0	0	0	0	0	0	0
7:00	8:00	0	0	0	0	0	0	0	0
8:00	9:00	1	1	0	0	1	1	1	5
9:00	10:00	1	1	0	0	1	1	1	5
10:00	11:00	1	1	0	0	1	1	1	5
11:00	12:00	1	1	0	0	1	1	1	5
12:00	13:00	1	1	0	0	1	1	1	5
13:00	14:00	1	1	0	0	1	1	1	5
14:00	15:00	1	1	0	0	1	1	1	5
15:00	16:00	1	1	0	0	1	1	1	5
16:00	17:00	1	1	0	0	1	1	1	5
17:00	18:00	0	0	0	0	0	0	0	0
18:00	19:00	0	0	0	0	0	0	0	0
19:00	20:00	0	0	0	0	0	0	0	0
20:00	21:00	0	0	0	0	0	0	0	0
21:00	22:00	0	0	0	0	0	0	0	0
22:00	23:00	0	0	0	0	0	0	0	0
23:00	23:59	0	0	0	0	0	0	0	0
Department Totals: Y17J		9	9	0	0	9	9	9	45

Grand Totals:

18      18      0      0      18      18      18      90





**Fort Dawes**  
**Work Schedules Report**  
**from 3/18/1999 thru 3/31/1999**

Employee: 12 APPLES, HOLLY G (Schedule)

Date	Start	Stop	Shift	Dept	Job	Hours
3/18/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/19/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/22/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/23/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/24/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/25/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/26/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/29/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/30/1999	8:00	16:30	1	Y17J	Y17J00	8.00
3/31/1999	8:00	16:30	1	Y17J	Y17J00	8.00
Scheduled:						80.00

Employee: 39 AIKMAN, TROY A (Schedule)

Date	Start	Stop	Shift	Dept	Job	Hours
3/18/1999	8:00	16:30	1	44G1	44G100	8.00
3/19/1999	8:00	16:30	1	44G1	44G100	8.00
3/22/1999	8:00	16:30	1	44G1	44G100	8.00
3/23/1999	8:00	16:30	1	44G1	44G100	8.00
3/24/1999	8:00	16:30	1	44G1	44G100	8.00
3/25/1999	8:00	16:30	1	44G1	44G100	8.00
3/26/1999	8:00	16:30	1	44G1	44G100	8.00
3/29/1999	8:00	16:30	1	44G1	44G100	8.00
3/30/1999	8:00	16:30	1	44G1	44G100	8.00
3/31/1999	8:00	16:30	1	44G1	44G100	8.00
Scheduled:						80.00

Employee: 47 ALLEN, LARRY H (Schedule)

Date	Start	Stop	Shift	Dept	Job	Hours
3/18/1999	8:00	16:30	1	44G1	44G100	8.00
3/19/1999	8:00	16:30	1	44G1	44G100	8.00
3/22/1999	8:00	16:30	1	44G1	44G100	8.00
3/23/1999	8:00	16:30	1	44G1	44G100	8.00
3/24/1999	8:00	16:30	1	44G1	44G100	8.00
3/25/1999	8:00	16:30	1	44G1	44G100	8.00
3/26/1999	8:00	16:30	1	44G1	44G100	8.00
3/29/1999	8:00	16:30	1	44G1	44G100	8.00
3/30/1999	8:00	16:30	1	44G1	44G100	8.00



Fort Dawes  
Work Schedules Report  
from 3/18/1999 thru 3/31/1999

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3/31/1999	8:00	16:30	1	44G1	44G100	8.00
Scheduled:						<u>80.00</u>

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Employee: 54 BARKER, ROBERT W (Schedule)

Date	Start	Stop	Shift	Dept	Job	Hours
3/18/1999	6:00	14:30	1	44G1	44G100	8.50
3/19/1999	6:00	14:30	1	44G1	44G100	8.50
3/22/1999	6:00	14:30	1	44G1	44G100	8.50
3/23/1999	6:00	14:30	1	44G1	44G100	8.50
3/24/1999	6:00	14:30	1	44G1	44G100	8.50
3/25/1999	6:00	14:30	1	44G1	44G100	8.50
3/26/1999	6:00	14:30	1	44G1	44G100	8.50
3/29/1999	6:00	14:30	1	44G1	44G100	8.50
3/30/1999	6:00	14:30	1	44G1	44G100	8.50
3/31/1999	6:00	14:30	1	44G1	44G100	8.50
Scheduled:						<u>85.00</u>

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Total Hours: 325.00

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# Foodtrak

<b>Management Summary Report</b>	This report compares actual cost of goods with ideal cost of goods, sales reported with sales calculated; lists customer count, inventory value, and year-to-date sales. It also ranks inventory items according to usage, shows actual and ideal usage, variance, % of sales, beginning and ending inventory, purchases, inventory cost, and total value per item
<b>Product Contribution Report</b>	This report provides comparative data for products (menu items or plates) to include selling price, ideal cost, gross margin, cost of goods %, number sold during period, number sold YTD, average sold per day, and rankings as a % of total contribution.
<b>Product Classification Report</b>	This report analyses sales for a period and graphically displays the "Stars" and "Dogs."
<b>Sales Forecast Report</b>	This report forecasts the quantity of a product that will be sold during a period based on historical data.
<b>Menu Analysis by Product Contribution</b>	This report analyses sales by product comparing number sold, selling price, ideal cost, gross margin, and ideal contribution



## Sample Database Management Summary

1/22/98 11:59:00 PM - 1/31/98 11:59:00 PM

### General Information:

Act. Cost of Goods:	\$13,062.22	43.39%	Sales Reported	\$30,101.55	100.00%	Customer Count	2508
Ideal Cost of Goods:	\$11,626.98	38.63%	Sales Calculated:	\$31,070.35	103.22%	Inventory Value:	\$9,856.43
Net Variance:	\$1,435.25	4.77%	Sales Variance	(\$968.80)	-3.22%	Year-To-Date Sales:	\$60,203.10

### Item Usage Rankings:

Item		Usage		Variance			Activity			Inventory		
Abbreviation	Unit	Actual	Ideal	Units	Dollars	% Sales	Begin	Purch	End	Days Left	Cost	Value
<b>Top 15 Overused:</b>												
Shrimp U15	lb	477.00	456.49	20.51	\$167	0.6	310.00	465.00	298.00	13.5	\$8.150	\$2,428.70
Oyster	bushel	15.00	12.25	2.75	\$124	0.4	6.50	16.00	7.50	9.8	\$45.000	\$337.50
Pot 80 Ct	case	27.50	13.51	13.99	\$114	0.4	4.50	32.00	9.00	5.9	\$8.180	\$73.62
coffee hs	lb	60.00	41.88	18.13	\$85	0.3	220.00	190.00	350.00	38.7	\$4.670	\$1,634.50
Turkey	lb	331.25	300.07	31.18	\$76	0.3	160.00	206.25	35.00	3.6	\$2.450	\$85.75
Tomato 5x6	case	34.50	26.32	8.18	\$74	0.2	5.00	30.00	0.50	0.3	\$9.100	\$4.55
Chili Sc	#10	55.00	29.48	25.52	\$73	0.2	76.00	84.00	105.00	26.3	\$2.850	\$299.25
Bl Chz Drs	gal	15.00	5.57	9.43	\$62	0.2	0.00	68.00	53.00	16.4	\$6.525	\$345.83
Garl Crtns	lb	95.00	29.72	65.28	\$60	0.2	25.00	300.00	230.00	16.1	\$0.925	\$212.75
1000 Isle	gal	11.00	1.86	9.14	\$60	0.2	16.00	36.00	41.00	23.9	\$6.525	\$267.52
Filet 10oz	each	623.00	612.00	11.00	\$58	0.2	22.00	630.00	29.00	1.0	\$5.250	\$152.25
Lemon	case	8.50	4.37	4.13	\$43	0.1	4.00	10.00	5.50	3.8	\$10.300	\$56.65
Ketchup Cn	#10	50.00	29.48	20.52	\$41	0.1	80.00	66.00	96.00	30.5	\$1.960	\$190.08
Equal	case	2.40	0.15	2.25	\$38	0.1	3.60	6.00	7.20	25.2	\$17.100	\$123.12
Fry Shortn	lb	190.00	100.84	89.16	\$36	0.1	715.00	175.00	700.00	84.0	\$0.403	\$282.00
				\$1,110		3.7						

### Top 5 Underused:

Wheat Brd	loaf	173.00	201.50	-28.50	(\$40)	-0.1	7.00	200.00	34.00	3.6	\$1.390	\$47.26
Strawberry	pint	294.12	309.75	-15.63	(\$19)	-0.1	6.00	288.12	0.00	0.0	\$1.208	\$0.00
Srde Roll	doz	185.00	191.75	-6.75	(\$13)	0.0	27.00	200.00	42.00	4.4	\$1.890	\$79.38
Strawb Glz	pkg	138.00	154.50	-16.50	(\$8)	0.0	1.00	144.00	7.00	1.0	\$0.483	\$3.38
Horseradsh	qt	12.50	14.74	-2.24	(\$8)	0.0	20.50	12.00	20.00	35.0	\$3.430	\$68.60
				(\$87)		-0.3						





## Sample Database Sales Forecast

### Based on Sales Periods

1/1998  
2/1998  
3/1998  
4/1998  
5/1998

Item Name	Selling Price	Average Sales	Forecast Sales	Forecast Quantity	% Increase From Avg
<b>Dinner Menu</b>					
<b>Appetizers</b>					
Oysters Dinner	\$5.95	\$541.45	\$1,706.48	287	215.17%
Potato Skins Dinner	\$4.25	\$180.63	\$329.83	78	82.60%
Shrimp Cocktail Dinner	\$5.95	\$1,610.96	\$3,449.27	580	114.11%
Appetizers Total		\$2,333.04	\$5,485.58	944	135.13%
<b>Beverages</b>					
Coffee Dinner	\$0.80	\$342.40	\$714.06	893	108.55%
Beverages Total		\$342.40	\$714.06	893	108.55%
<b>Desserts</b>					
Ice Cream Dinner	\$2.25	\$75.94	\$245.19	109	222.89%
Straw Pie w/crm din	\$3.25	\$302.25	\$807.11	248	167.03%
Strawberry Pie Dinner	\$2.95	\$351.79	\$1,181.41	400	235.83%
Desserts Total		\$729.98	\$2,233.72	758	206.00%
<b>Entrees</b>					
Filet With Hol Sc Dinner	\$12.95	\$1,997.54	\$4,246.71	328	112.60%
Filet/Shrimp Scampi Dinr	\$15.95	\$3,931.68	\$11,587.61	726	194.72%
Steamed Shellfish Dinner	\$14.95	\$1,009.13	\$2,972.62	199	194.57%
Turkey Omlette Dinner	\$4.95	\$1,003.61	\$2,433.20	492	142.44%
Entrees Total		\$7,941.95	\$21,240.14	1745	167.44%
<b>Sides</b>					
Baked Potato, Dinner	\$1.25	\$50.94	\$171.92	138	237.52%
Fries, Side Order Dinner	\$1.25	\$74.69	\$244.42	196	227.26%
Green Salad Substitute	\$0.30	\$0.90	\$2.06	7	129.43%
Rice Side Order Dinner	\$1.25	\$56.87	\$200.38	160	252.32%
Salad Side Dinner	\$1.25	\$26.88	\$94.64	76	252.14%
Tomatoes, Sliced Dinner	\$1.25	\$11.56	\$39.27	31	239.66%
Sides Total		\$221.84	\$752.71	607	239.31%
<b>Dinner Menu Total</b>		<b>\$11,569.20</b>	<b>\$30,426.21</b>	<b>4947</b>	<b>162.99%</b>

\* Sales mix records that spanned more than one day were averaged into individual days for calculation purposes.



YOUR PLACE

## Sample Database

### Product Contribution Report

1/23/98 - 1/31/98 11:59:00 PM

Product	Selling Price	Ideal Cost	Gross Margin	Cost %	Qty Sold	Sold YTD	Avg / Day	Total Sales	Ideal Contrib	% Total Sales	% Total Contrib	Rank
Filet/Shrimp Scampi Dinr	\$15.95	\$8.69	\$7.256	54.51%	400.0	400.0	44.4	\$6,380.00	\$2,902.41	20.53%	14.93%	1
Turkey Club	\$5.95	\$1.82	\$4.127	30.64%	610.0	1220.0	76.3	\$3,629.50	\$2,517.60	11.68%	12.95%	2
Shrimp Scampi Lunch	\$12.95	\$5.56	\$7.386	42.97%	280.0	365.0	22.8	\$3,626.00	\$2,068.06	11.67%	10.64%	3
Turkey Omelette Dinner	\$4.95	\$1.06	\$3.894	21.33%	400.0	400.0	44.4	\$1,980.00	\$1,557.58	6.37%	8.01%	4
Shrimp Cocktail Dinner	\$5.95	\$2.85	\$3.098	47.93%	412.0	412.0	45.8	\$2,451.40	\$1,276.52	7.89%	6.57%	5
Strawberry Pie Dinner	\$2.95	\$0.59	\$2.359	20.04%	445.0	445.0	49.4	\$1,312.75	\$1,049.62	4.23%	5.40%	6
Bacon/lettuce/tom Sandw	\$3.95	\$0.78	\$3.174	19.65%	312.0	624.0	39.0	\$1,232.40	\$990.19	3.97%	5.09%	7
Oysters Dinner	\$5.95	\$1.79	\$4.163	30.03%	225.0	225.0	25.0	\$1,338.75	\$936.66	4.31%	4.82%	8
Turkey Omelette Lunch	\$4.95	\$1.06	\$3.894	21.33%	220.0	440.0	27.5	\$1,089.00	\$856.67	3.50%	4.41%	9
Coffee Dinner	\$0.80	\$0.11	\$0.690	13.76%	1012.0	1012.0	112.5	\$809.60	\$698.16	2.61%	3.59%	10
Coffee Lunch	\$0.80	\$0.11	\$0.690	13.76%	998.0	1996.0	124.8	\$798.40	\$688.50	2.57%	3.54%	11
Filet With Hol Sc Dinner	\$12.95	\$6.54	\$6.408	50.52%	105.0	105.0	11.7	\$1,359.75	\$672.83	4.38%	3.46%	12
Straw Pie w/crm din	\$3.25	\$0.70	\$2.549	21.57%	260.0	260.0	28.9	\$845.00	\$662.75	2.72%	3.41%	13
Filet/Shrimp Scampi Lun	\$15.95	\$8.69	\$7.256	54.51%	62.0	124.0	7.8	\$988.90	\$449.87	3.18%	2.31%	14
Oysters Lunch	\$5.95	\$1.79	\$4.163	30.03%	75.0	150.0	9.4	\$446.25	\$312.22	1.44%	1.61%	15
Shrimp Cocktail Lunch	\$5.95	\$2.85	\$3.098	47.93%	100.0	200.0	12.5	\$595.00	\$309.84	1.92%	1.59%	16
Filet With Hollandaise L	\$12.95	\$6.54	\$6.408	50.52%	45.0	90.0	5.6	\$582.75	\$288.36	1.88%	1.48%	17
Potato Skins Dinner	\$4.25	\$0.79	\$3.464	18.49%	70.0	70.0	7.8	\$297.50	\$242.49	0.96%	1.25%	18
Ice Cream Dinner	\$2.25	\$0.25	\$1.999	11.14%	120.0	120.0	13.3	\$270.00	\$239.92	0.87%	1.23%	19
Strawberry Pie Lunch	\$2.95	\$0.59	\$2.359	20.04%	52.0	104.0	6.5	\$153.40	\$122.65	0.49%	0.63%	20
Strawb Pie W/crm L	\$3.25	\$0.70	\$2.549	21.57%	44.0	88.0	5.5	\$143.00	\$112.16	0.46%	0.58%	21
Potato Skins Lunch	\$4.25	\$0.79	\$3.464	18.49%	30.0	60.0	3.8	\$127.50	\$103.93	0.41%	0.53%	22
Steamed Shellfish Dinner	\$14.95	\$7.72	\$7.232	51.62%	14.0	14.0	1.6	\$209.30	\$101.25	0.67%	0.52%	23
Shrimp Salad Sandwich	\$7.95	\$2.74	\$5.212	34.44%	12.0	24.0	1.5	\$95.40	\$62.55	0.31%	0.32%	24
Shellfish Platter Lun	\$14.95	\$7.72	\$7.232	51.62%	6.0	12.0	0.8	\$89.70	\$43.39	0.29%	0.22%	25
Ice Cream Lunch	\$2.25	\$0.25	\$1.999	11.14%	16.0	32.0	2.0	\$36.00	\$31.99	0.12%	0.16%	26
Fries, Side Order Dinner	\$1.25	\$0.18	\$1.070	14.41%	24.0	24.0	2.7	\$30.00	\$25.68	0.10%	0.13%	27
Rice Side Order Lunch	\$1.25	\$0.10	\$1.153	7.72%	21.0	42.0	2.6	\$26.25	\$24.22	0.08%	0.12%	28
Fries, Lunch Side Order	\$1.25	\$0.18	\$1.070	14.41%	19.0	38.0	2.4	\$23.75	\$20.33	0.08%	0.10%	29
Salad Side Lunch	\$1.25	\$0.47	\$0.783	37.33%	22.0	44.0	2.8	\$27.50	\$17.24	0.09%	0.09%	30
Baked Potato, Lunch Side	\$1.25	\$0.28	\$0.972	22.22%	16.0	32.0	2.0	\$20.00	\$15.58	0.06%	0.06%	31
Tomatoes, Sliced Dinner	\$1.25	\$0.15	\$1.096	12.33%	12.0	12.0	1.3	\$15.00	\$13.15	0.05%	0.07%	32
Salad Side Dinner	\$1.25	\$0.47	\$0.783	37.33%	15.0	15.0	1.7	\$18.75	\$11.75	0.06%	0.06%	33
Baked Potato, Dinner	\$1.25	\$0.28	\$0.972	22.22%	12.0	12.0	1.3	\$15.00	\$11.67	0.05%	0.06%	34
Rice Side Order Dinner	\$1.25	\$0.10	\$1.153	7.72%	4.0	4.0	0.4	\$5.00	\$4.61	0.02%	0.02%	35
Tomatoes, Sliced Lunch	\$1.25	\$0.15	\$1.096	12.33%	1.0	2.0	0.1	\$1.25	\$1.10	0.00%	0.01%	36
Green Salad Substitute	\$0.30	\$0.32	(\$0.021)	106.66%	2.0	4.0	0.3	\$0.60	(\$0.04)	0.00%	0.00%	37

Total Reported Sales : \$31,070.35

## Your Place



## Menu Analysis by Product Contribution (Lunch Menu)

Point	Product	Qty Sold	% Sls Mix	Selling Price	Ideal Cost	Gross Margin	Ideal Contrib
V	Turkey Club	610	22.1%	\$5.95	\$3.10	\$2.85	\$1,737.93
R	Shrimp Scampi Lunch	85	3.1%	\$12.95	\$3.85	\$9.10	\$773.87
W	Turkey Omelette Lunch	220	8.0%	\$4.95	\$1.71	\$3.24	\$713.89
C	Bacon/lettuce/tom Sandw	314	11.4%	\$3.95	\$2.05	\$1.90	\$595.28
H	Filet/shrimp Scampi Lun	62	2.2%	\$15.95	\$7.84	\$8.11	\$502.67
L	Oysters Lunch	75	2.7%	\$5.95	\$0.12	\$5.83	\$437.27
S	Shrimp Cocktail Lunch	100	3.6%	\$5.95	\$1.80	\$4.15	\$415.09
E	Coffee Lunch	998	36.1%	\$0.80	\$0.51	\$0.29	\$289.36
G	Filet With Hollandaise L	45	1.6%	\$12.95	\$6.53	\$6.42	\$289.07
U	Strawberry Pie Lunch	52	1.9%	\$2.95	\$0.62	\$2.33	\$121.20
N	Potato Skins Lunch	30	1.1%	\$4.25	\$0.78	\$3.47	\$103.96
M	Strawb Pie W/ice Crm L	44	1.6%	\$3.25	\$0.95	\$2.30	\$101.27
Q	Shellfish Platter Lun	6	0.2%	\$14.95	\$3.84	\$11.11	\$66.67
P	Shrimp Salad Sandwich	12	0.4%	\$7.95	\$2.87	\$5.08	\$61.01
O	Rice Side Order Lunch	21	0.8%	\$1.25	\$0.10	\$1.15	\$24.23
K	Ice Cream Lunch	16	0.6%	\$2.25	\$0.75	\$1.50	\$23.96
I	Fries, Lunch Side Order	19	0.7%	\$1.25	\$0.18	\$1.07	\$20.33
F	Salad Side Lunch	22	0.8%	\$1.25	\$0.48	\$0.77	\$16.94
B	Baked Potato, Lunch Side	16	0.6%	\$1.25	\$0.28	\$0.97	\$15.56
D	Coffee Lunch	2	0.1%	\$3.60	\$0.36	\$3.24	\$6.48
T	Tomatoes, Sliced Lunch	1	0.0%	\$1.25	\$0.15	\$1.10	\$1.10
J	Strawberry Pie Lunch	0.5	0.0%	\$0.93	\$0.93	\$0.00	\$0.00
A	Strawberry Pie Lunch	15	0.5%	\$0.04	\$0.04	\$0.00	(\$0.03)



# RecTrac

<b>Rental Revenue Report</b>	This report prints an entered range of items for an entered date range based on their usage. It compares the listing, the item number, description, make, model, serial number and revenue amount.
<b>Facility Usage Report</b>	This report prints an entered range of facilities for an entered date and time range based on their usage. It compares the available time to the reserved time and gives a usage percent by facility and in total.
<b>Summary Sales Journal</b>	This report lists the total number of transactions and the total sales amount for each inventory item. This report is run based on an entered sales date period, time of day period and user id range.
<b>Ticket Commission Report</b>	This report prints a listing of tickets within a selected ticket and date range that show the split between the ticket sold amount and the commission percent. It also lists the quantity sold, sale amount, commission, and remittance amount to send to the ticket vendor.
<b>What's Hot/What's Not</b>	This report calculates an item's sales in relation to the total sales of all items for a specified period. The report sorts in descending order of the "hot" sellers.

Run Date: 02/18/99

## RENTAL REVENUE REPORT

Run Time: 12:06:00

RANGE ==&gt; - ZZZZZZZZZZ

User raw

DATE RANGE ==&gt; 05/01/98 - 09/30/98

Item Numb	Description	Make	Model	Serial Number	Revenue
26TARP03	TARP #3				0.00
26TARP04	TARP #4				0.00
26TARP05	TARP #5				0.00
26TEN601	TENT 6 PERSON #1	DIAMOND BRAND	CHALET		132.00
26TEN602	TENT 6 PERSON #2	DIAMOND BRAND	CHALET		142.50
26TEN603	TENT 6 PERSON #3	DIAMOND BRAND	CHALET		72.00
26TEN604	TENT 6 PERSON #4	DIAMOND BRAND	CHALET		35.00
26TEN605	TENT 6 PERSON #5	DIAMOND BRAND	CHALET		15.00
26TEN606	TENT 6 PERSON #6	DIAMOND BRAND	CHALET		0.00
26TENS01	SWITCHBACK TENT #1	KELTY	SWITCHBACK		42.00
26TENS02	SWITCHBACK TENT #2	KELTY	SWITCHBACK		0.00
26TENS03	SWITCHBACK TENT #3	KELTY	SWITCHBACK		22.00
26TENS04	SWITCHBACK TENT LG.	KELTY	SWITCHBACK		0.00
26TENS05	DOMELITE TENT	KELTY	DOMELITE		0.00
26TENS06	QUATRO TENT	KELTY	QUATRO		0.00
26TENS07	DOVE TENT GREEN #1		DOVE TENT		20.00
26TENS08	DOVE TENT GREEN #2		DOVE TENT		0.00
26TILLER01	ROTO TILLER				0.00
26TM01	TROLLING MOTOR #1	MOTORGUIDE	STEALTH 350	HD15217V	0.00
26TM02	TROLLING MOTOR #2	MOTORGUIDE	STEALTH 350	HA61687W	14.00
26TUGOWAR	TUG-O-WAR ROPE				0.00
26UT01	16' UTILITY #1 B.D.				200.00
26UT02	16' UTILITY #2				365.00
26UT03	16' UTILITY #3				250.00
26UTILITY8	8' UTILITY TRAILER				15.00
26UTS01	12' UTILITY #1				135.00
26VOLYBAL1	VOLLEYBALL SET #1				6.00
26VOLYBAL2	VOLLEYBALL SET #2				5.00
26WEEDEAT1	WEEDEATER	WEEDEATER	GTI 19T	95202N	5.00
26WTCLRB1	WATER COOLER RBMD.	RUBBERMAID	5 GAL.		0.00
26WTCLRB2	WATER COOLER CLMN.#	COLEMAN	5 GAL.		0.00
26WTCLRB3	WATER COOLER CLMN.#	COLEMAN	5 GAL.		5.00
26WTCLRB4	WATER COOLER CLMN.#	COLEMAN	5 GAL.		0.00
26WTCLRB5	WATER COOLER CLMN.#	COLEMAN	5 GAL.		0.00
26WTCLRB6	WATER COOLER CLMN.#	COLEMAN	5 GAL.		0.00
26YB01	YAMAHA BLUE	YAMAHA	WRB700S	YAMA1923H394	1,262.00
26YW01	YAMAHA WHITE	YAMAHA	WRBY00R	YAMA3295E393	797.50

\*\*\*\*\* TOTAL RENTAL ITEMS IN SELECTED RANGE ----- 325

\*\*\*\*\* TOTAL REVENUE FOR ITEMS IN SELECTED RANGE ----- 29,154.04

NOTE: Any items with an '\*' next to REVENUE FIGURE have an IN DATE that is outside of the  
OUT DATE RANGE. This may inflate the revenue figure depending on your requirements.

Run Date: 02/18/99

## A/R FACILITY USAGE REPORT

Run Time: 12:12:08

OTHRU 999999

User raw

Activity	Description	Type	Sec	Facility	Beg Date	End Date	Beg Time	End Time	Days Of Week	Rsv Numh
300001	ITT Trips	TRIP	1	COREC-7560-VANS	03/24/97	03/28/97	06:00A	06:00P	M,Tu,W,Th,F	N/A
			2	TRIP-659A-ITT	05/30/97	05/30/97	06:00A	11:00P	F	N/A
			3	TRIP-659A-ITT	06/20/97	06/20/97	08:00A	07:00P	F	N/A
			4	TRIP-659A-ITT	07/11/97	07/11/97	04:00P	11:59P	F	N/A
			5	TRIP-659A-ITT	08/22/97	08/24/97	06:00A	10:00P	F,Sa	N/A
			6	TRIP-659A-ITT	07/25/97	07/25/97	07:00A	06:00P	F	N/A
			7	TRIP-659A-ITT	09/05/97	09/05/97	09:00A	08:00P	F	N/A
			8	TRIP-659A-ITT	11/14/97	11/14/97	04:00P	11:59P	F	N/A
			9	TRIP-PKLOT-PKLOT	11/28/97	11/28/97	06:00A	07:00P	F	N/A
300002	TRUE COLORS	INST	1	COREC-7560-COREC	11/04/96	11/04/96	08:00A	05:00P	M	N/A
300003	ITT TRIPS	TRIP	1	TRIP-PKLOT-PKLOT	01/16/98	01/18/98	06:00A	11:00P	F,Sa	N/A
			2	TRIP-659A-ITT	04/20/98	04/27/98	06:00A	11:00P	Tu,W,Th,F,Sa	N/A
			3	TRIP-659A-ITT	03/27/98	03/29/98	06:00A	08:00P	Su,F,Sa	N/A
			4	TRIP-659A-ITT	07/31/98	07/31/98	06:30A	09:30P	F	N/A
			5	TRIP-PKLOT-PKLOT	10/23/98	10/25/98	06:30A	08:00P	Su,F,Sa	N/A
			6	TRIP-PKLOT-PKLOT	11/08/98	11/11/98	08:00A	08:00P	Su,M,Tu,W	N/A
			7	TRIP-PKLOT-PKLOT	12/18/98	12/18/98	04:30A	08:00P	F	N/A
			8	TRIP-PKLOT-PKLOT	12/20/98	12/20/98	11:45A	08:00P	Su	N/A
			9	TRIP-PKLOT-PKLOT	11/28/98	11/30/98	08:00A	07:00P	Sa	N/A
300004	ITT TRIPS FOR FY99	TRIP	1	TRIP-PKLOT-PKLOT	02/13/99	02/13/99	06:00A	09:00P	Sa	N/A
			2	TRIP-PKLOT-PKLOT	03/12/99	03/14/99	07:30A	08:00P	Su,F,Sa	N/A



User raw

Run Date: 02/18/99 Run Time: 11:59:51

## ----- SUMMARY SALES JOURNAL -----

Date Period =&gt; 02/18/99 Through 02/18/99

Time Period -----&gt; 01:00A Through 11:00P

User ID Range -----&gt; Through ZZZ

----- Processing Date: 02/18/99 -----

Code	Description	Count/Amount
Item: 450004		1
	MCI 200 UNITS	38.95
T/C - 401 ** TOTAL **		1
	TICKET SALES	38.95
Item:		1
	Non-Inventory	15.00
T/C - 841 ** TOTAL **		1
	1000LB P/U LOAD SCMD	15.00
Item: 853		192
	105mm Ammo Box New	19.20
T/C - 853 ** TOTAL **		192
	105mm Ammo Box New	19.20
TOTAL TRANSACTIONS -----		194
TOTAL TRANSACTION AMOUNT -		73.15
TOTAL SALES TAX -----		0.00
GROSS SALES FOR DAY -----		73.15
TOTAL NON-TAXABLE SALES --		73.15
TOTAL TAXABLE SALES -----		0.00
TOTAL RETURNED COUNT -----		0
TOTAL RETURNED AMOUNT -----		0.00
TOTAL RETURNED SALES TAX -		0.00
NET SALES AMOUNT -----		73.15
NET SALES TAX AMOUNT -----		0.00
NET GROSS SALES -----		73.15

Run Date: 02/18/99

## TICKET COMMISSION REPORT

Run Time: 12:01:38

TICKETS:

- ZZZZZZZZ

DATES: 03/30/98 - 10/31/98

User raw

Ticket	Description	Block	Comm Type	Qty Sold	Sale Amt	Commission	Remit Amount
S402	Silver Dollar child	TOTALS ==>		4	61.40	5.40	56.00
SDZOO-A	SAN DIEGO ZOO - ADUL	1	Flat Amt	4.00	64.80	6.00	58.80
SDZOO-C	SAN DIEGO ZOO - CHIL	1	Flat Amt	4.00	36.80	6.00	30.80
UNIVCALA	UNIVERSAL CAL-ADULT	1	Flat Amt	3.00	85.50	81.00	4.50

```

***** TOTAL TICKETS SOLD IN DATE RANGE ----- 491
***** TOTAL TICKET SALES IN DATE RANGE ----- 10,083.85
***** TOTAL COMMISSION EARNED ON SALES ----- 1,371.14
***** TOTAL AMOUNT TO REMIT TO TICKET VENDOR ----- 8,712.71

```



T/C	Tran Code Description	Count	Percent	Amount	Percent
853	105mm Ammo Box New	96,187.00	74.48	22,985.20	4.01
350	McAAP BOWLING CENTER INV.	6,634.00	5.14	4,848.06	0.85
840	105MM AMMO BOXES 0-99CT	5,683.50	4.40	1,224.70	0.21
602	Cash Sales-Lakeview Mobile Truc	3,452.40	2.67	8,294.70	1.45
844	90LB PALLETS	3,068.00	2.38	3,037.00	0.53
601	cash sales-Lakeview Dinning	2,377.20	1.84	6,334.60	1.10
352	YOUTH/SENIOR	2,039.20	1.58	2,549.00	0.44
354	SHOE RENTAL	1,615.00	1.25	875.00	0.15
353	LEAGUES 3/4.00	1,212.85	0.94	4,851.40	0.85
351	OPEN BOWLING	1,181.00	0.91	1,771.50	0.31
250	OUT REC ARCHERY INV	965.00	0.75	8,835.50	1.54
401	TICKET SALES	690.00	0.53	13,020.25	2.27
609	Cash Sales-Bar	557.25	0.43	4,516.30	0.79
603	Credit Sales-Lakeview Dinning	470.00	0.36	3,587.45	0.63
611	Cash Sales-Snack Bar	413.15	0.32	1,103.65	0.19
848	MISC. ITEMS	386.00	0.30	145.00	0.03
253	BIG BASS ROUND-UP FISHING INCOM	362.00	0.28	395.00	0.07
152	MCAAP GOLF LEAGUE INCOME	264.00	0.20	1,453.50	0.25
612	Receivables	244.00	0.19	244.00	0.04
843	CASH AND CARRY SALES	241.00	0.19	65,799.75	11.48
151	Gym Resale	223.00	0.17	1,588.75	0.28
356	COSMIC BOWLING	195.00	0.15	1,027.11	0.18
841	1000LB P/U LOAD SCWD	186.00	0.14	2,727.50	0.48
255	BAGGED ICE (10 LB.)	143.75	0.11	143.75	0.03
613	Bingo	137.00	0.11	273.00	0.05
610	Credit Sales-Bar	57.00	0.04	374.00	0.07
847	1000LB FIREWOOD SCWD	36.00	0.03	185.00	0.03
842	1500LB TRAILER SCWD	34.00	0.03	810.00	0.14
254	FISHING TOURNAMENT WEIGH-IN BAG	18.00	0.01	18.00	0.00
153	MWR CARDS	17.00	0.01	220.00	0.04
263	OUTBOARD MOTOR OIL USAGE	12.75	0.01	157.00	0.03
355	AMUSEMENT MACHINES	12.00	0.01	972.60	0.17
851	METAL SALES	8.00	0.01	15,369.84	2.68
260	RETURNED CHECK	5.00	0.00	631.25	0.11
850	BATTERY SALES	4.00	0.00	754.15	0.13
261	RETURNED CHECK SERVICE CHARGE I	4.00	0.00	80.00	0.01
855	Clearing Account Income	3.00	0.00	390,000.00	68.02
357	SPECIAL ORDERS PENDING	3.00	0.00	142.78	0.02
500	Armed Forces Day Tickets	2.00	0.00	20.00	0.00
846	BEVERAGE CANS	2.00	0.00	1,334.40	0.23
614	Rental Afterhours	1.00	0.00	150.00	0.03
856	MIXED PAPER	1.00	0.00	100.35	0.02
402	ITT TRIPS	1.00	0.00	175.00	0.03
360	RETURNED CHECK SERVICE CHARGE I	1.00	0.00	15.00	0.00
359	ACCOUNTS RECEIVABLE RET. CHECK	1.00	0.00	50.00	0.01
252	RETURNED CHECK SERVICE CHARGE I	1.00	0.00	15.00	0.00
251	RETURNED CHECKS	1.00	0.00	20.00	0.00
155	RETURNED CHECK SERVICE CHARGE I	1.00	0.00	20.00	0.00
154	RETURNED CHECKS	1.00	0.00	10.50	0.00

# **Answer Key**

## **ANSWER KEY**

### **Chapter 1** **Income Statement**

1. The Income Statement is part of the financial statement. Financial Statements are composed of:
  - Balance Sheet
  - Accounts Payable
  - Accounts Receivable
  - Supporting Schedules
2. False. Income statements are produced down to the department level.
3. Revenues are down and expenses are up = negative.
4. Expenses are down and revenues are up = positive.
5. False. At Department Level.
6. Figure 1-8: Interest Income.
7. Figure 1-7: Other Operating Income.
8. Figure 1-9: Sales, Other Operating Income, COGS, Labor, and Net Income.

9.	SALES	\$4,500
	– COGS	\$2,200
	= GROSS INCOME FROM SALES	\$2,300
	+ OTHER OPERATING INCOME	\$1,300
	= GROSS INCOME FROM OPERATIONS	\$3,600
	– LABOR	\$1,400
	– OTHER OPERATING EXPENSES	\$ 400
	= NET INCOME/LOSS FROM OPERATIONS	\$1,800
	+ OTHER INCOME	\$ 200
	– OTHER EXPENSES	\$ 300
	= NET INCOME/LOSS BEFORE DEPR	\$1,700
	– DEPRECIATION	\$ 250
	= NET INCOME	\$1,450

## **Chapter 2**

### **Diagnosing Sales Trends**

1. False. You may need more than one to identify the true problem.
2. Troop reduction, training exercises, and installation mission changes.
3. The average dollar amount spent by each customer.
4. Door counters, programmable cash register, and guest checks. Programmable cash registers are the most accurate and require the least effort.
5. True.
6. Sales by Period.
7. Seasonal Sales Trends.
8. Cash Register, Scatter Sheet, Inventory and Merchandise Receipt Records.
9. To isolate or identify true causes.
10. \$300 is recorded in GLAC 301 Sales and \$50 is recorded in GLAC 305 Sales Discount.
11. Income collected when goods or products permanently change hands. Cost of Goods Sold.
12. Figure 2-6:
  - Market Change
  - Product Presentation
  - Quality Change
  - Competitor Pricing
13. Figure 2-7:
  - Return to vendor
  - Promotional Sale
  - Use them as lost leaders to get customers in the store
14. Figure 2-8 and Figure 2-9:
  - Increase retiree market share
  - Increase family member customer base
  - Cut expenses
  - Special events, classes, etc.
  - Adjust hours of operation
15. Figure 2-13:
  - Identify market needs of troops

- Develop market plan to promote products among troops
- Customer service training

16. Figure 2-14:

- Give them what they want at a competitive price
- Identify the problem
- Increase customer base through aggressive marketing techniques

### **Chapter 3**

#### **Reviewing Other Operation Income**

1. True.
2.  $\text{Other Operating Income for Period} \div \text{Customer Count Per Period} = \text{Average Check}$ .
3. DAR, Cashier Report, Cash Register readings/detail tapes, and scatter sheets.
4. To focus attention on periods where performance is poor.
5. Service Analysis is difficult and time consuming.
6. Income by Customer.
7. Income by customer looks at operations from a global perspective and is not used for identifying problems in a specific period of time or in a specific service.
8. Figure 3-10:
  - Promotional events
  - Improve Customer Service
  - Reduce Prices

9. Figure 3-17:

- Increase customer service
- Improve facility appearance
- Competitive prices
- Market analysis

### **Chapter 4**

#### **Analyzing Other Income**

1. True.
2. Reduction in bank balance and reduction in interest rate.

### **Answer Key-3**

3. False. Recorded at the Fund level.

4. Sources of Other Income:

- Interest
- Gain on Sale of Fixed Assets
- Grants
- Donations

## **Chapter 5**

### **Total Revenue as a Management Tool**

1. Net Sales, Other Operating Income, and Other Income.

2. True.

3. False. COGS is computed from net sales.

4.  $\$4,300 + \$16,339 + \$270 = \$20,909$ .

5.  $\$3,389 \div \text{Total Revenue} = 16.21\%$ .

## **Chapter 6**

### **Managing Cost of Goods Sold**

1. Consistent percentage within budget standards.

2. True.

3. D. High pricing will create a lower COGS%

4. Two types of errors in inventory paperwork:

- Administrative
- Operational

5. Possible Solutions:

- Secure merchandise.
- Establish sales accountability for inventories that show averages and shortages.
- Spot check bin cards and stock records.
- Ensure a sales point close to the exit.
- Focus on items that show a history of pilferage.
- Don't let employees park next to the back door.
- Establish control procedures for employee purchases.

## **Answer Key-4**

6. True.
7. False. If actual COGS% is greater than expected COGS% there are Administrative and Operational Problems.
8. False. Under portioning results in a lower COGS.
9. False. Insufficient pricing will result in higher COGS.
10. False. Look at department level.
11. Four possible trends for COGS are:
  - Constantly High Percentage
  - Constantly Low Percentage
  - Consistent Percentage
  - Fluctuating Percentage
12. False. COGS are monitored by percentage.
13.  $\$14,561 - \$1,561 = \$13,000$   
 $6,500 \div 13,000 = 50\%$
14.  $\$45 + \$3 = \$48$   
 $SP = 48 \div .7 = \$68.57$   
 $\$68.57 \div 30 = \$2.30$
15. Means that 60 cents from every dollar goes for the cost of goods sold.

## Chapter 7

### Controlling Labor Costs

1. D. It depends on the operation.
2. False. Consider man-hours required.
3. Types of Scheduling Problems:
  - Open ended scheduling
  - First line supervisors not preparing the schedule
  - No schedule prepared
  - Not enforced
4. For infrequent events.
5. Management can hire at any level within the payband. Raises are at the discretion of management.

6. Working employees more hours than the plan or budget.
7. False. Annually.
8. False. By DPCA.
9. True.
10. False. Sick leave is expensed when taken.
11. 21.13%

$$14,705 + 3,950 + 57 = \$18,712$$

$$3,954 \div 18,712 = 21.13\%$$

## **Chapter 8**

### **Analyzing Other Operating Expenses**

1. Non-discretionary and Fixed.
2. Emergency.
3. Variable and Discretionary.
4. False. Also need to consider the percentage.
5. True.
6. False. Expensed as it's used.
7. Statement of Nonavailability.
8.  $\$7,400 \div \$40,234 = 18.39\%$
9.  $\$2,456 \div \$40,234 = 6.10\%$

## **Chapter 9**

### **Other Expenses**

1. False. Usually at IMWRF level.
2. False. Charged to the program level.
3. False. Depreciate fixed assets over their expected useful life.



## **Chapter 10**

### **Depreciation**

1. False. Depreciation schedule should not be changed to reduce costs, but to adjust for a change in life expectancy.
2. True.
3. False. Depreciation will increase.
4. False.
5. False. Manager established the life expectancy.
6. False. Monitor in terms of increasing or decreasing dollars.
7. GLAC 858.
8.  $\$15,457 \div 24 = 645$ ,  $\$15,475 \div 84 = 184$

## **Chapter 11**

### **Monitoring Net Income (Loss)**

1. Total Expenses from Total Revenue.
2. False.
3. True.
4.  $\$10,453 \div \$350,407 = 2.98\%$
5. *Total Revenue*  $\$350,407 - \textit{Total Expenses}$   $\$372,520 = \textit{Net Income}$   $(\$22,113)$   
 $\$22,113 \div \$350,407 = 6.31\%$

## **Chapter 12**

### **Managing Resale Inventory**

1. True.
2. C.
3. E. They should all be considered.
4. B.
5. True.
6. True.

## **Answer Key-7**

7. True.

8. 1.3 ITR

$$(\textit{Beginning Inventory } \$7,604 + \textit{Ending Inventory } \$8,324) \div 2 = \$7,964$$

$$\text{COGS } \$10,123 \div \textit{Average Inventory } 7,964 = 1.3$$